IMPORTANT

Before you remove the Wire-Seal, check the contents of this envelope with the listing on the front of the envelope. If any part is missing, your Howard W. Sams distributor will replace the entire PHOTOFACT set IF the Wire-Seal has not been damaged.

This PHOTOFACT Folder Set is

WIRE-SEALED FOR YOUR PROTECTION

to guarantee completeness of contents

DO NOT ACCEPT IF SEAL HAS BEEN BROKEN

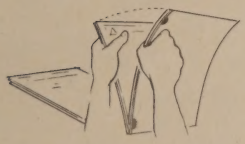
TO OPEN ***JUST DO THIS:***

1

Take hold of the Set with both hands. Place your thumbs directly under the top wire-seal; then, divide the contents equally by putting your thumbs midway through the thickness of the Set. Now, pull the two sections apart at the top, firmly.

2

Repeat this process, pulling close to the wire-seal at the bottom, so that the set is now divided into two equal parts.



3

Continue this "pulling-apart" process with the section in which the wire-seals remain, dividing it in half.

4

Finally, remove the wire-seals left in the last section; this can easily be done with your fingernail or any sharp instrument.

Your "Safety-Sealed" PHOTOFACT Set is now ready for profit-making use . . .

IMPORTANT

Before you remove the Wire-Seal, check the contents of this envelope with the listing on the front of the envelope. If any part is missing, your Howard W. Sams distributor will replace the entire PHOTOFACT set IF the Wire-Seal has not been damaged.

The PHOTOFACT® Servicer

SET 510 ★ *Published for all users of Howard W. Sams' Photofact Folders* ★ DEC. 1960

CONTENTS PHOTOFACT SET 510

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SILVERTONE Chassis 456.50370 thru 456.50377, 528.50370 thru 528.50377	510-2
PRODUCTION CHANGE BULLETIN 249	
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HOFFMAN Tel. Rec. B3581, B3601, C3581, K3581, M3581, M3601, SP3581, SP3601, W3581, W3601 (Ch. 345, 346)	510-3
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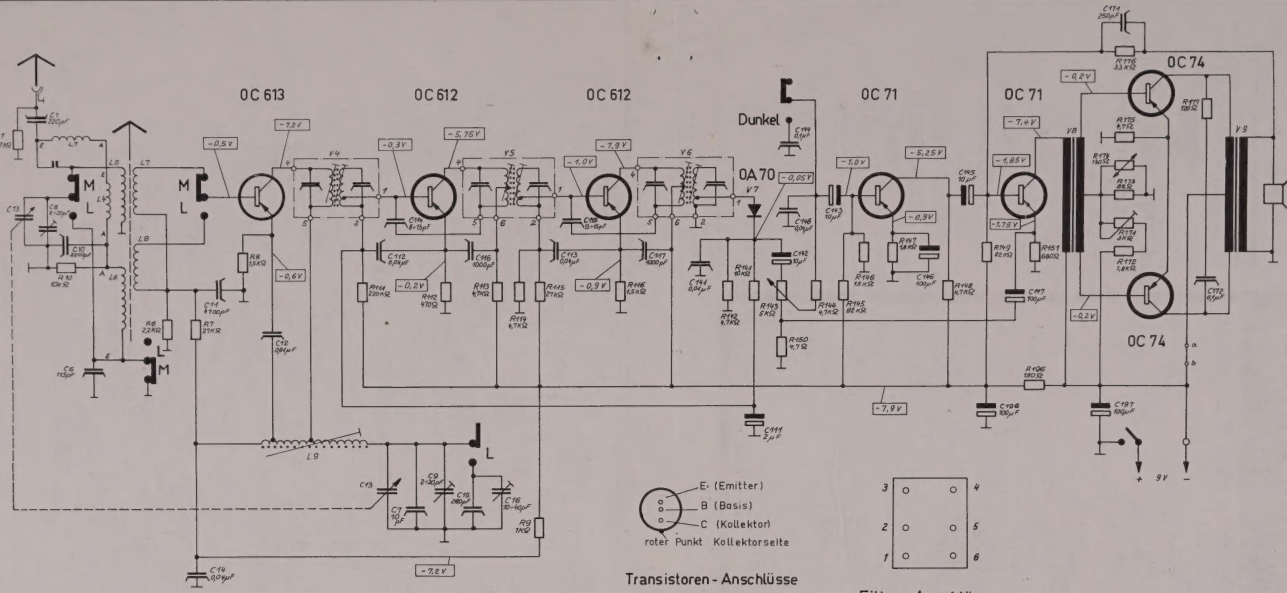
RIVERSIDE FJB-6537A, FJB-6538A	510-16

This Servicer provides you with essential data on other models or special equipment not covered in standard PHOTOFACT folders. The schematics and supplementary data included here will be of valuable help to you in servicing this equipment.

IN THIS ISSUE OF THE SERVICER:

Nordmende Models
0/601, 0/601K

Truetone Models
D1048A, D2021A,
D2026A



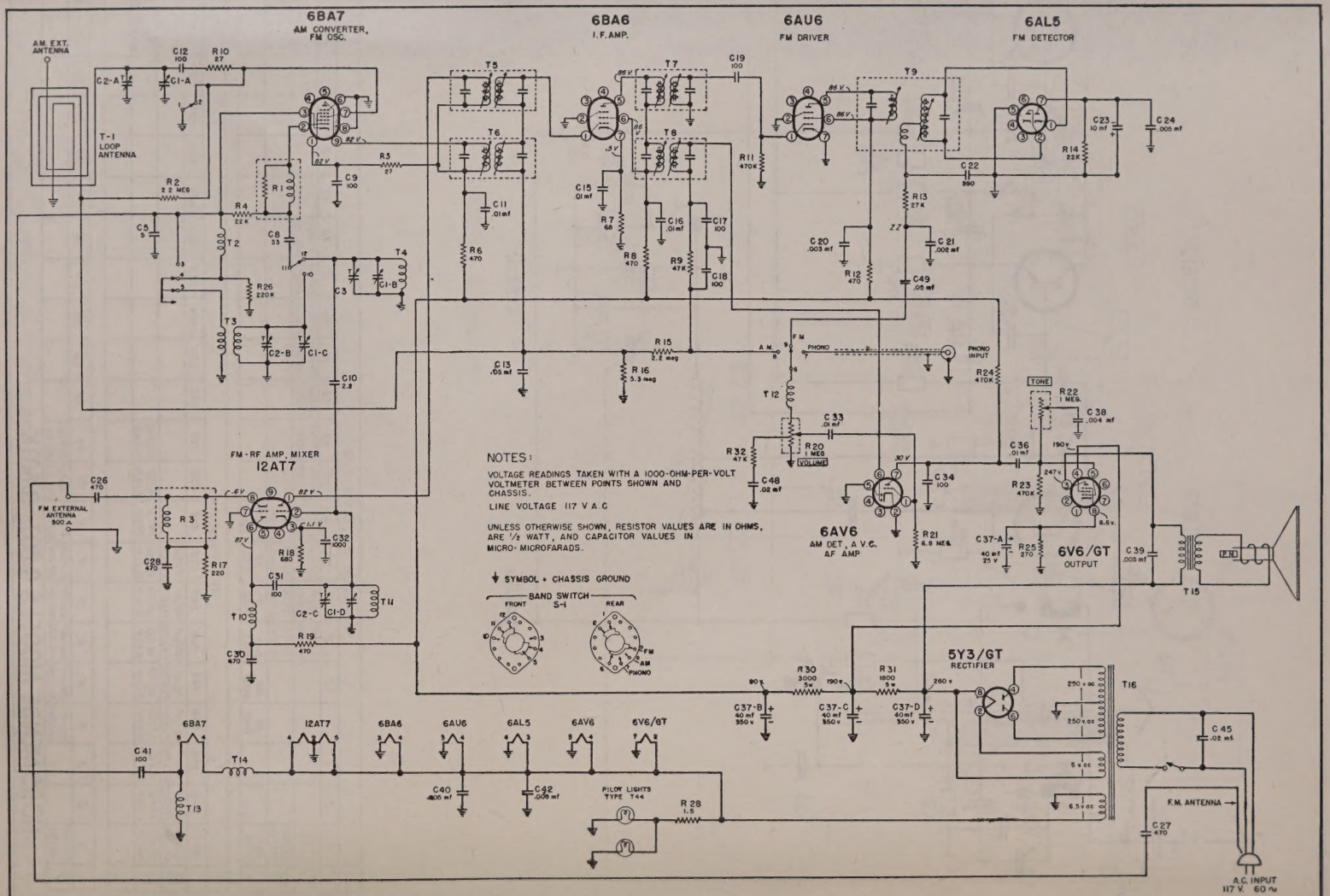
	Mischstufe und Spulensatz																	ZF - Stufe														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	111	112	113	114	115	116	117	118	119	120	121	122	123	124
C	220pF KF 125V					115pF KT 125V	18pF KT 125V	2÷30pF KG 750	2÷30pF KG 750	2200pF KF 125V	4700pF K 500V	0,01µF P 150V	Drehkö 446.250	0,01µF P 150V	280pF KT 125V	10÷40pF KG 1.005					2µF 443.041	0,01µF P 150V	0,01µF P 500V	8÷13pF K 500V	13÷15pF K 500V	1000pF K 500V	1000pF K 500V							
R	4,7kΩ 0,33W					2,2kΩ 0,33W	27kΩ 0,33W	1,5kΩ 0,33W	1kΩ 0,33W	10kΩ 0,33W											220kΩ 0,33W	47kΩ 0,33W	4,7kΩ 0,33W	4,7kΩ 0,33W	27kΩ 0,33W	1,5kΩ 0,33W								
L	588 MvG			35 MvG	60 MvG	160 MvG	8 MvG	18 MvG	6/13/180 MvG																									

	NF - Vorstufen																	NF - Gegentaktendstufe									Stromversorgung			
	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	171	172	173	174	175	176	177	178	179	180	196	197	198	199
C	0,01µF P 150V	40µF 443.043	40µF 443.043	0,1µF P 150V	40µF 443.043	100µF 443.043	100µF P 80V	0,01µF P 150V													250pF KT 125V	0,1µF P 150V									100µF 443.044	100µF 443.044		
R	10kΩ 0,33W	4,7kΩ 0,33W	5kΩ 402.746	4,7kΩ 0,33W	82kΩ 0,33W	15kΩ 0,33W	1,8kΩ 0,33W	4,7kΩ 0,33W	82kΩ 0,33W	4,7Ω 0,33W	680Ω 0,33W										3kΩ 402.087	1,4kΩ 0,33W	82Ω 0,33W	1302Ω 404.001	4,7Ω 0,33W	33kΩ 0,33W	710Ω 0,33W				150Ω 0,33W			
L																																		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
V	Ferrit 446.021			Bandf. 820.051	Bandf. 820.052	Bandf. 820.053	Sperrkr. 946.021	1.Trafo 922.001	2.Trafo 922.017	Ausgang 922.013	Netztrafo 472.033																									

NORDMENDE MODELS 0/601, 0/601K

Schematic Diagram Courtesy of Nordmende: Importer Sterling Hi-Fidelty, Inc



TRUETONE MODELS D1048A, D2021A, D2026A

Schematic Diagram Courtesy of Western Auto Supply Co.

PHOTOFACT® Folder with CIRCUITRACE®

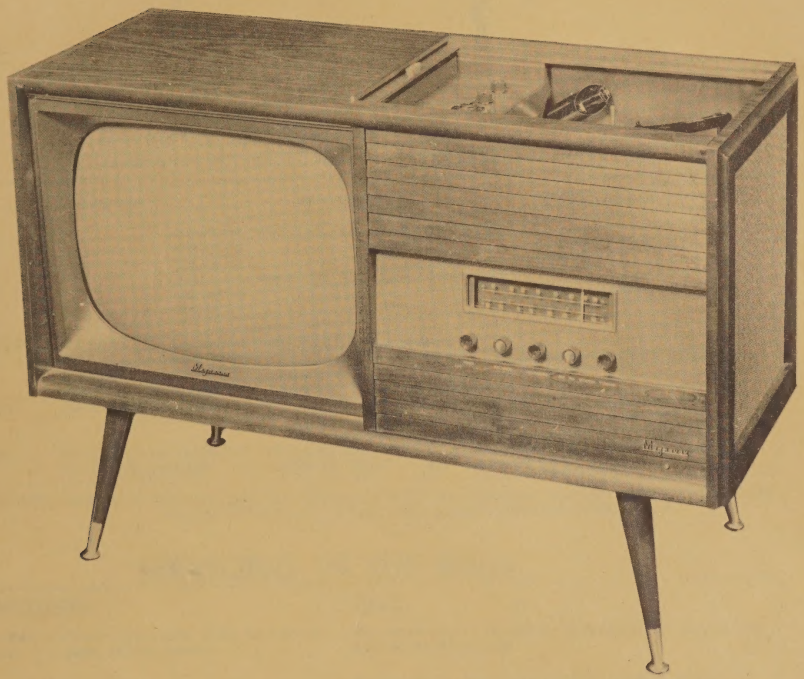
MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10

IMPORTANT FILING NOTICE

The TV Folder for this envelope will be found among the first folders in this complete Set of folders.

Merely insert the corresponding folder on this model in this envelope to retain proper filing and indexing order.

MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10



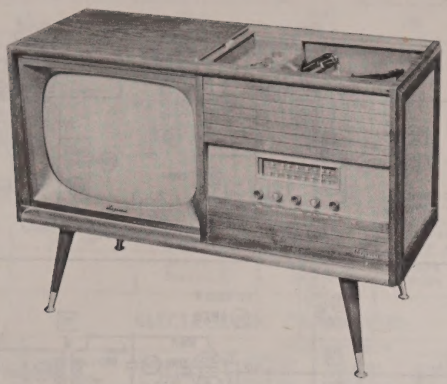
MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10

REPRESENTATIVE MODEL USING TV CH. V33-05-00,
FM-AM RADIO (WITH STEREO AMP) CH. 62-02-00 OR 62-02-10

SET 510 FOLDER 1

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



REPRESENTATIVE MODEL USING TV CH. V33-05-00,
FM-AM RADIO (WITH STEREO AMP) CH. 62-02-00 OR 62-02-10

TRADE NAME	MAGNAVOX	TV CHASSIS	RADIO CHASSIS
		U33-01-00, U33-02-00, U33-03-00, U33-04-00	
		U33-05-00	62-02-00 or 62-02-10
		U33-06-00	62-02-10
		V33-01-00, V33-02-00, V33-03-00, V33-04-00	
		V33-05-00	62-02-00 or 62-02-10
		V33-06-00	62-02-10
MANUFACTURER	Magnavox Co., 2131 Bueter Road, Fort Wayne 4, Indiana		
TYPE SET	Television Receiver. Models using Chassis 33-05, -06 have FM-AM Radio (with Stereo Amplifier) and 4 Speed Automatic * Record Changer.		
TUBES	TV: VHF - Seventeen, UHF - Eighteen	FM AM Radio: Eight	
POWER SUPPLY	110-120 Volts AC, 60 Cycle	RATING	TV & Radio: 210 Watts, 2 Amp. (a) 117 Volts AC
			TV: 175 Watts, 1.5 Amp. (a) 117 Volts AC
			Radio: 35 Watts, .5 Amp. (a) 117 Volts AC
TUNING RANGE	TV: Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		
	Radio: BROADCAST 540-1620KC (IF 455KC) FM 88-108MC (IF 10.7MC)		

* FOR SERVICE INFORMATION ON RECORD CHANGER #523050-1 (F200C) - SEE SIMILAR COLLARO CONQUEST (REVISED) PHOTOFACT SET 408 FOLDER 6 OR RECORD CHANGER MANUAL RC-11.

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL

Remove 4 screws holding the trim strip at the top edge of the safety glass. Tilt glass out and remove.

FUSE

A 1/4 Amp. fuse is used for horizontal sweep protection. (For location, see "Tube Placement Chart".)

A fuse wire is used for filament protection. (For location, see M3 in photo "TV Chassis - Bottom View".)

TUNER OSCILLATOR ADJUSTMENT

To touch up the VHF Oscillator, remove Channel Selector and Fine Tuning Knobs. NOTE: Oscillator adjustment on Fireball Tuner (700731-1, 700732-1) is accessible from the rear of the chassis through the small hole in the rear cover of the tuner.

AGC

No provision is made to vary the AGC on this receiver.

FOCUS

The focus may be varied by the position of a strap on the base of the picture tube.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Coarse adjustment of the Horizontal Hold is accomplished by the proper setting of the Horizontal Frequency Slug (B1). (For location, see "Tube Placement Chart".)

WIDTH

The width may be varied by a Width Coil. (For location, see "Tube Placement Chart".)

CENTERING

Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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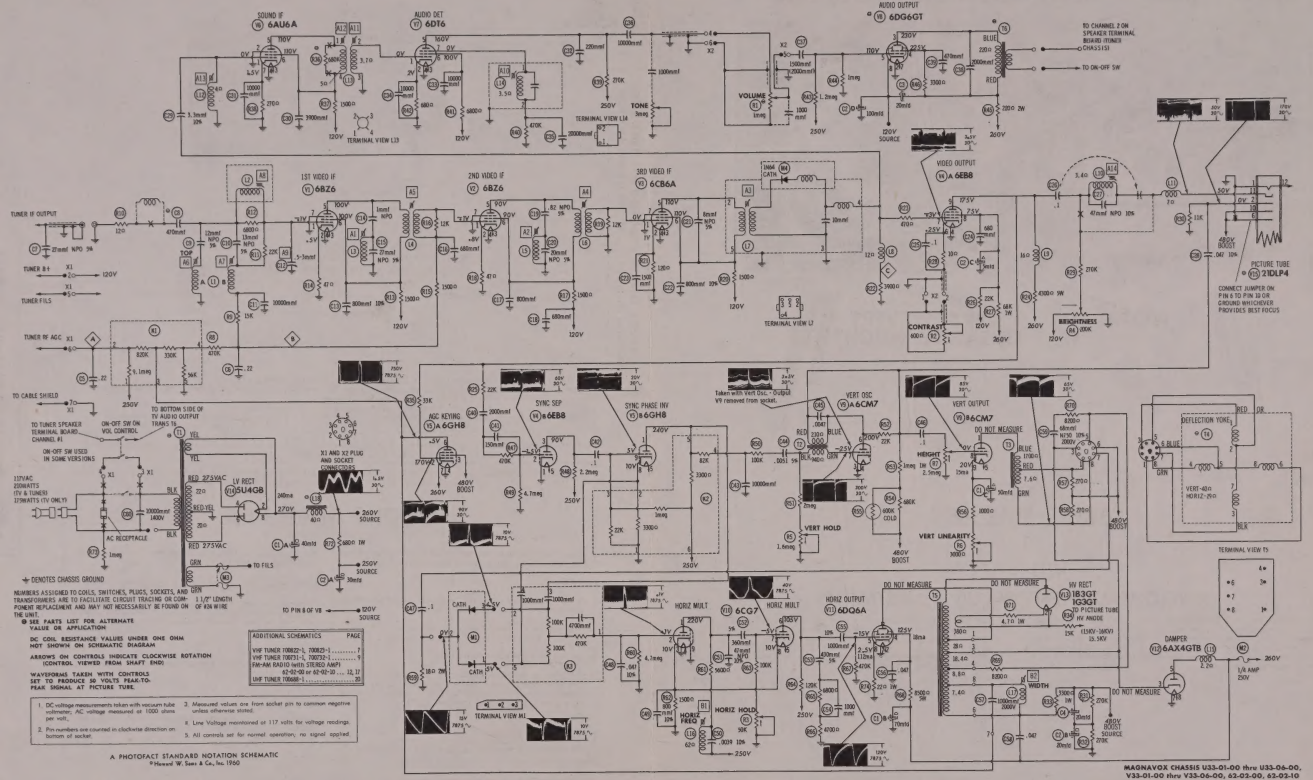
MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10

SET 510 FOLDER 1


SOUND IF V6 6AU6A
AUDIO DET. V7 6DT6
AUDIO OUTPUT V8 6DG6GT
1ST VIDEO IF V1 6BZ6
2ND VIDEO IF V2 6BZ6
3RD VIDEO IF V3 6CB6A
VIDEO OUTPUT V4 6EB8
TUNER IF OUTPUT
TUNER B+
TUNER FILS
TUNER RF AGC
TO CABLE SHIELD
TO TUNER SPEAKER TERMINAL BOARD CHANNEL #1
ON-OFF SW ON VOL CONTROL
ON-OFF SW USED IN SOME VERSIONS
TO BOTTOM SIDE OF TV AUDIO OUTPUT TRANS T6
AC RECEPTACLE
X1 AND X2 PLUG AND SOCKET CONNECTORS
LV RECT V10 5U4GB
TO FILS
TO PIN 8 OF V8
120V SOURCE
260V SOURCE
250V SOURCE
DENOTES CHASSIS GROUND
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON OF #26 WIRE
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)
WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 50 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.
1. DC voltage measurements taken with vacuum tube voltmeter. AC voltage measured at 1000 ohms per volt.
2. Pin numbers are counted in clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line Voltage mentioned at 117 volts for voltage readings.
5. All controls set for normal operation, no signal applied.
ADDITIONAL SCHEMATICS PAGE
VHF TUNER 700822-1, 700823-1 7
VHF TUNER 700731-1, 700732-1 9
FM-AM RADIO (with STEREO AMP) 62-01-00 or 62-01-10 12, 17
UHF TUNER 700681-1 20
A PHOTOFACT STANDARD NOTATION SCHEMATIC
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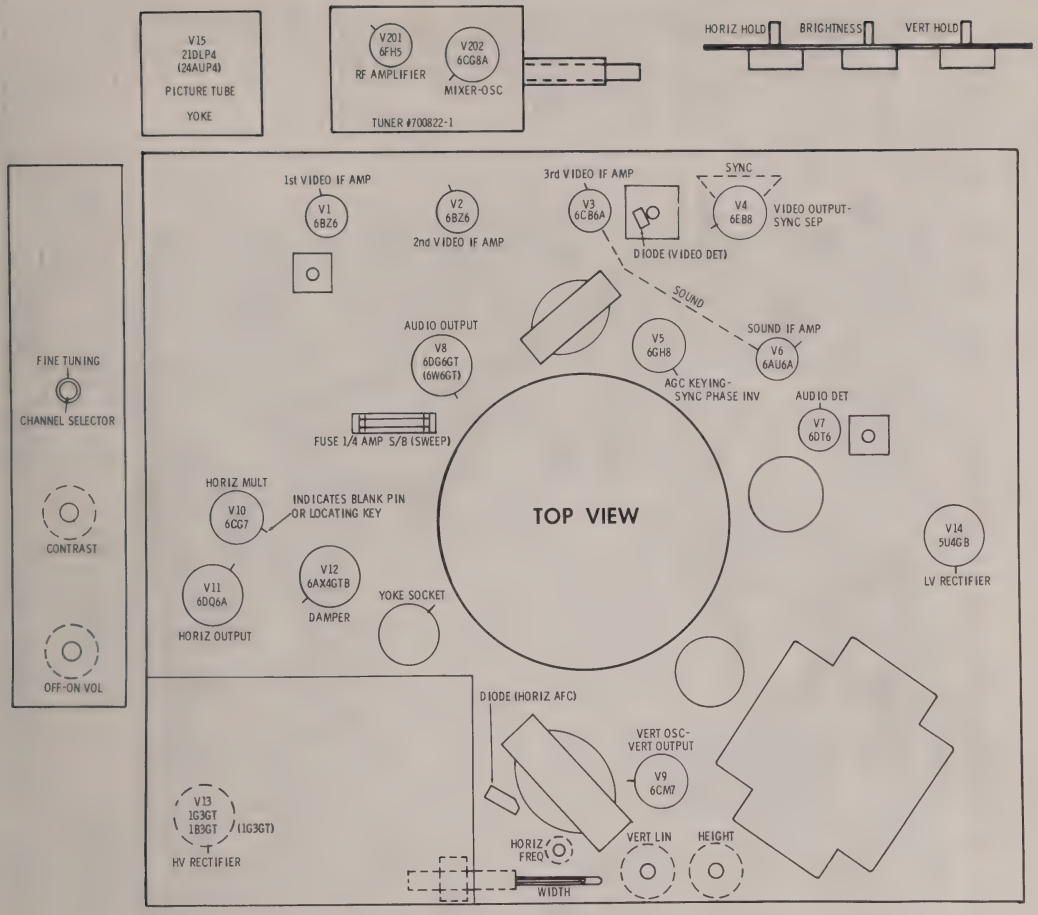
TERMINAL VIEW L13
TERMINAL VIEW L14
TERMINAL VIEW L7
TERMINAL VIEW T5
TERMINAL VIEW M1
VOLUME R1
TONE R2
CONTRAST R3
BRIGHTNESS R4
TO CHANNEL 2 ON SPEAKER TERMINAL BOARD (TUNER CHASSIS)
TO ON-OFF SW
PICTURE TUBE V13 21DLP4
CONNECT JUMPER ON PIN 6 TO PIN 10 OR GROUND WHICHEVER PROVIDES BEST FOCUS
Taken with Vert Osc. - Output V9 removed from socket.
SYNC SEP V5 6EB8
SYNC PHASE INV V6 6GH8
AGC KEYING V5 6GH8
VERT OSC V6 6CM7
VERT OUTPUT V9 6CM7
DO NOT MEASURE
VERT HOLD
VERT LINEARITY
HEIGHT
DEFLECTION YOKE
VERT-40 HORIZ-250
HORIZ MULT V11 6CG7
HORIZ MULT
HORIZ OUTPUT V12 6DQ6A
HORIZ FREQ
HORIZ HOLD
WIDTH
HV RECT 1B3GT K3GKT TO PICTURE TUBE HV ANODE 11.0kV-16.0kV 15.5kV
DAMPER V12 6AX4GTB
1/6 AMP 250V
480V BOOST
MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

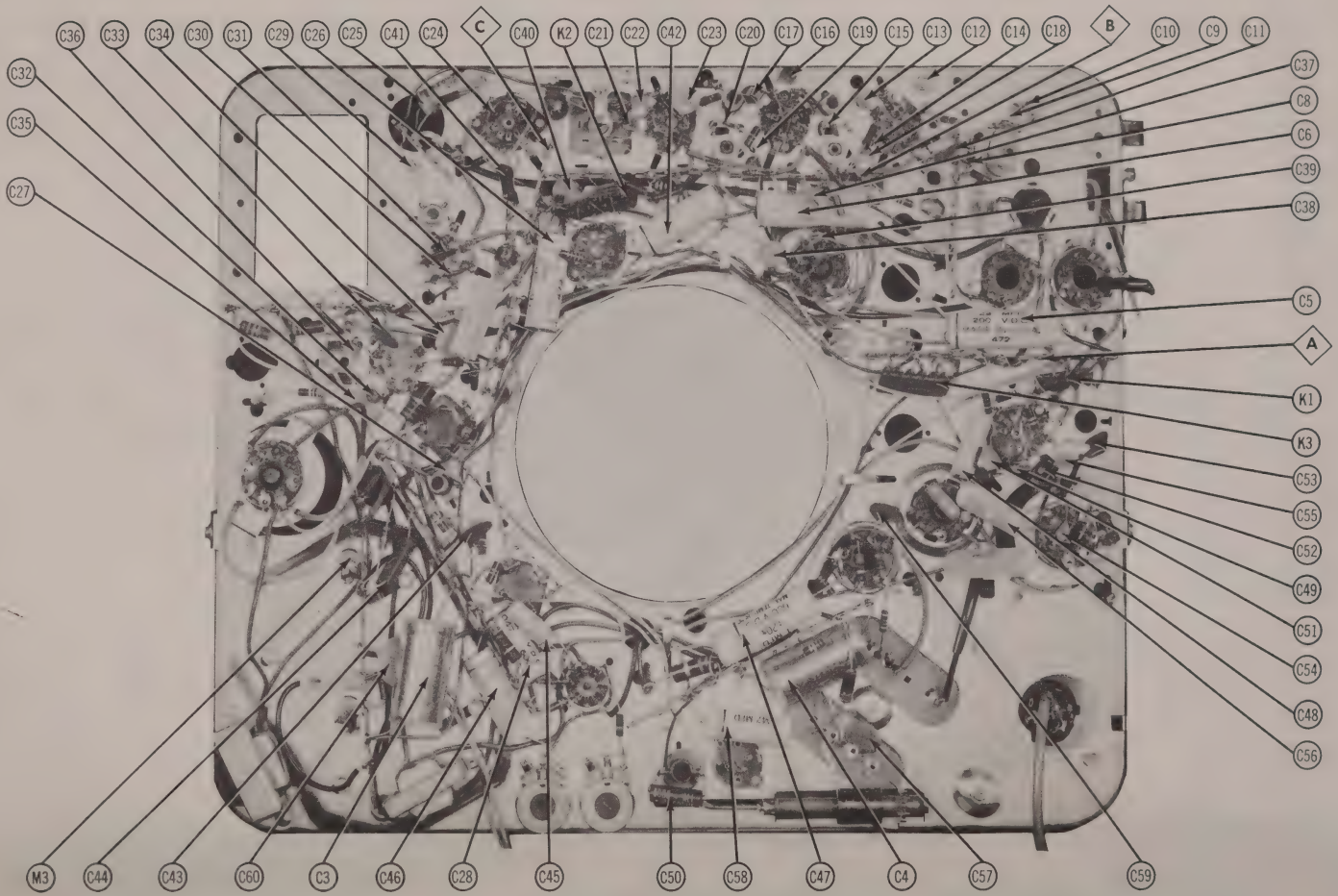
The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE
No raster, no sound V14, Fuse Wire (F1l.)

SWEEP FAILURE
No raster, has sound V10, V1l, V12, Fuse (Sweep), V13, V15
No vertical deflection V9
Poor vert. linearity or foldover V9
Poor horiz. linearity or foldover V10, V1l, V12
Narrow picture V10, V1l, V12, V14
Vert. off freq., V9
Horiz. off freq. Diode (Horiz. AFC), V10

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3, Diode (Video Det.), V8
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V15
Has pic, no sound V6, V7, V8
Overloaded picture V5

SYNC FAILURE
No vert. sync V4, V5
No horiz. sync V4, V5
No vert. or horiz. sync V4, V5



TV CHASSIS BOTTOM VIEW - CAPACITOR, ALIGN., & MISC., IDENT.

TV ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A1, A2, A4 thru A8 .... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A3, A10 thru A14 ..... GENERAL CEMENT #8721, 8722
WALSCO #2519

VIDEO IF ALIGNMENT

Connect the negative lead of a 1.5 volts bias supply to point Ⓐ. Positive to chassis.
Connect the negative lead of a 3 volt bias supply to point Ⓑ. Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Preset Mixer Plate Coil by turning core fully counterclockwise.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	High side thru .01mfd to pin 1 (grid) of 1st Video IF Amp. Low side to chassis.	44MC (10MC Swp)	39.75MC	Any non-interfering channel	Vert. Amp. thru 10K to point Ⓒ. Low side to chassis. (Across Video Det. load)	A1	Adjust to place marker in trap notch as in Fig. 1.
2.	"	"	47.25MC	"	"	A2	"
3.	"	"	42.25MC 45.0MC 45.75MC	"	"	A3, A4, A5	Check for response similar to Fig. 1. If necessary, adjust A3 for maximum gain, A4 to place 45.75MC marker at 50% on high frequency side and A5 to place 42.25MC marker at 50% on other side.
4.	Place a thin insulated, metal strip between the Mixer-Osc. tube (V202) and tube shield. Connect the high side of sweep generator to the metal strip. Low side to chassis.	"	41.25MC	"	"	A6	Adjust to place marker in trap notch as in Fig. 2.
5.	"	"	47.25MC	"	"	A7	"
6.	"	"	42.25MC 45.0MC 45.75MC	"	"	A8, A9, & Mixer Plate Coil	Adjust for maximum gain and symmetry of response similar to Fig. 2 with markers as shown.

SOUND IF ALIGNMENT

Preset A10 fully counterclockwise.
Tune the receiver to a strong local station (preferably with a test pattern and tone signal or music). Adjust A10 just past the point of maximum sound and MINIMUM distortion.
Reduce the signal input by disconnecting the antenna or connecting an adjustable pad across the antenna terminals so that with the volume set near maximum, sound is at a low level. Set the Fine Tuning control to the verge of distortion.
Adjust A11, A12 and A13 for MINIMUM distortion.

4.5MC TRAP ALIGNMENT

Tune in a strong TV signal and set Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible. Adjust A14 for MINIMUM beat interference.

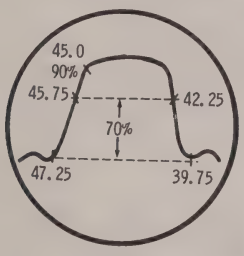


FIG.1

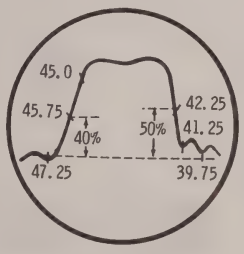
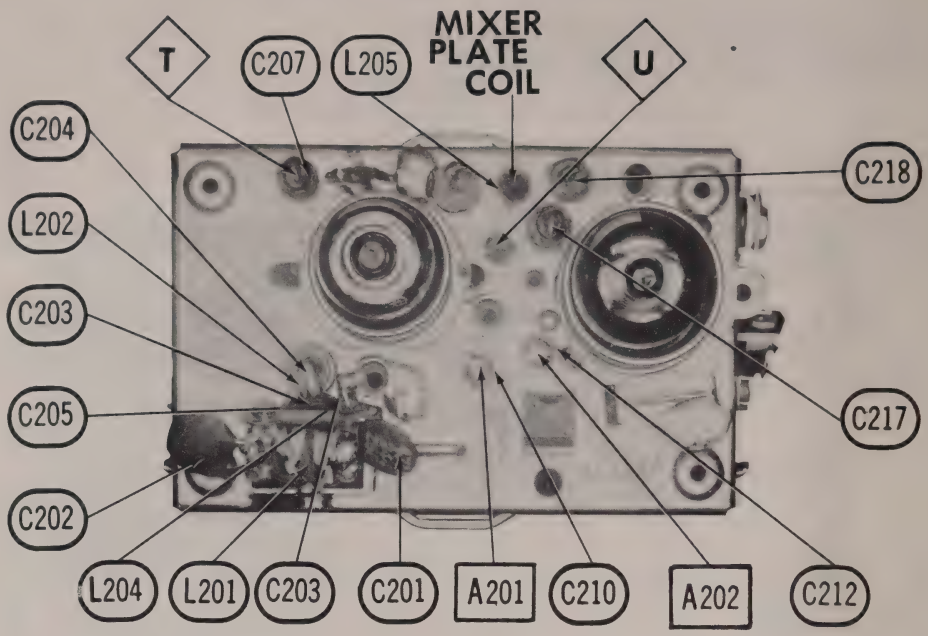
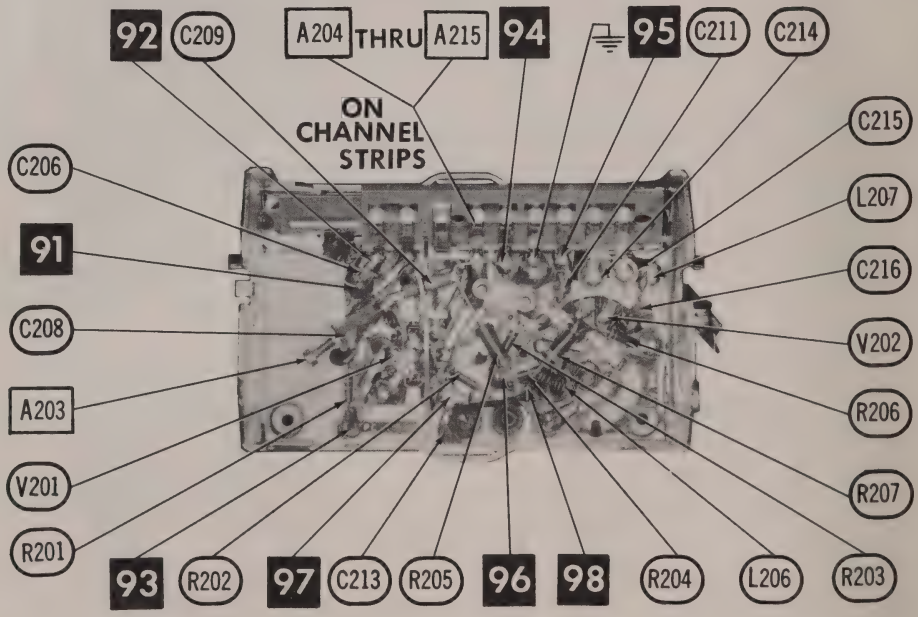


FIG.2



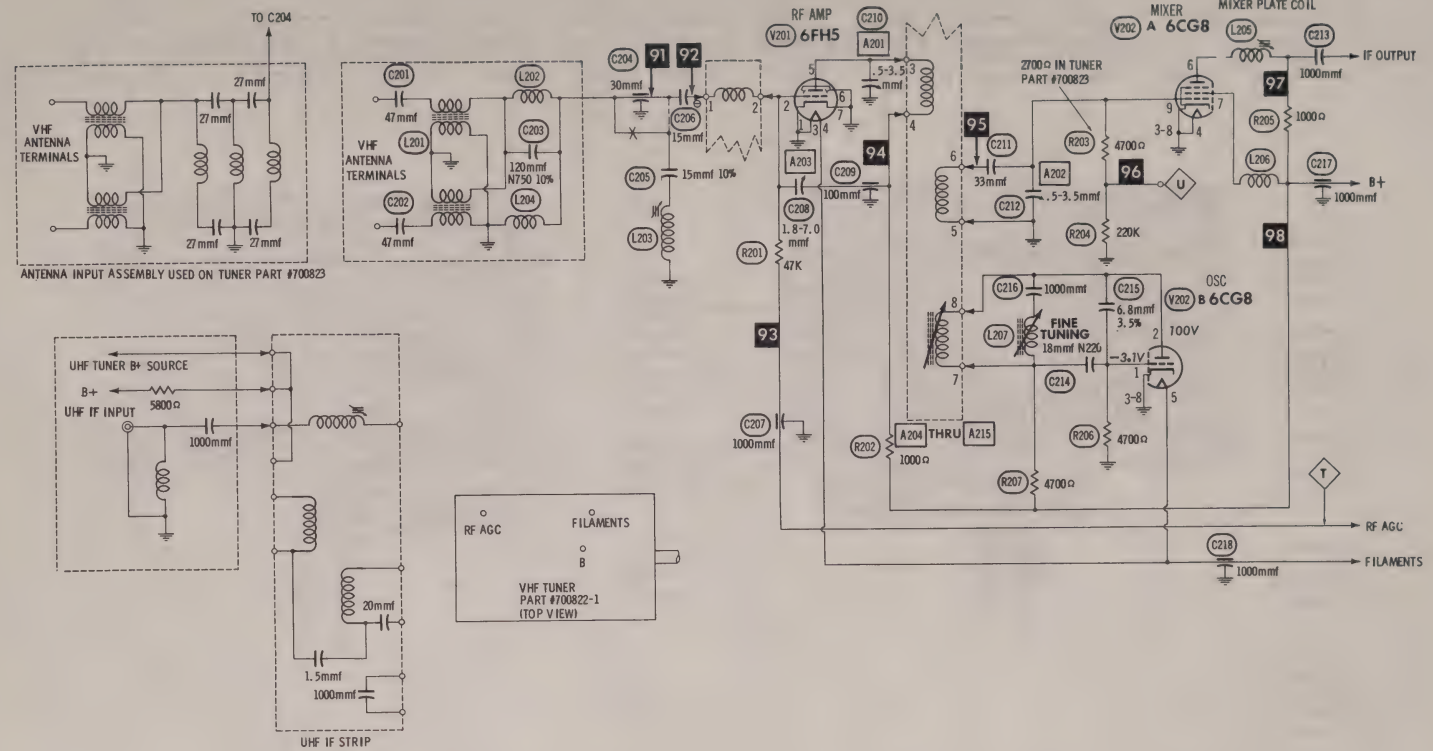
VHF TUNER 700822-1 - TOP VIEW



A Howard W. Sams CIRCUITRACE® Photo

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

VHF TUNER 700822-1 - BOTTOM VIEW



A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE

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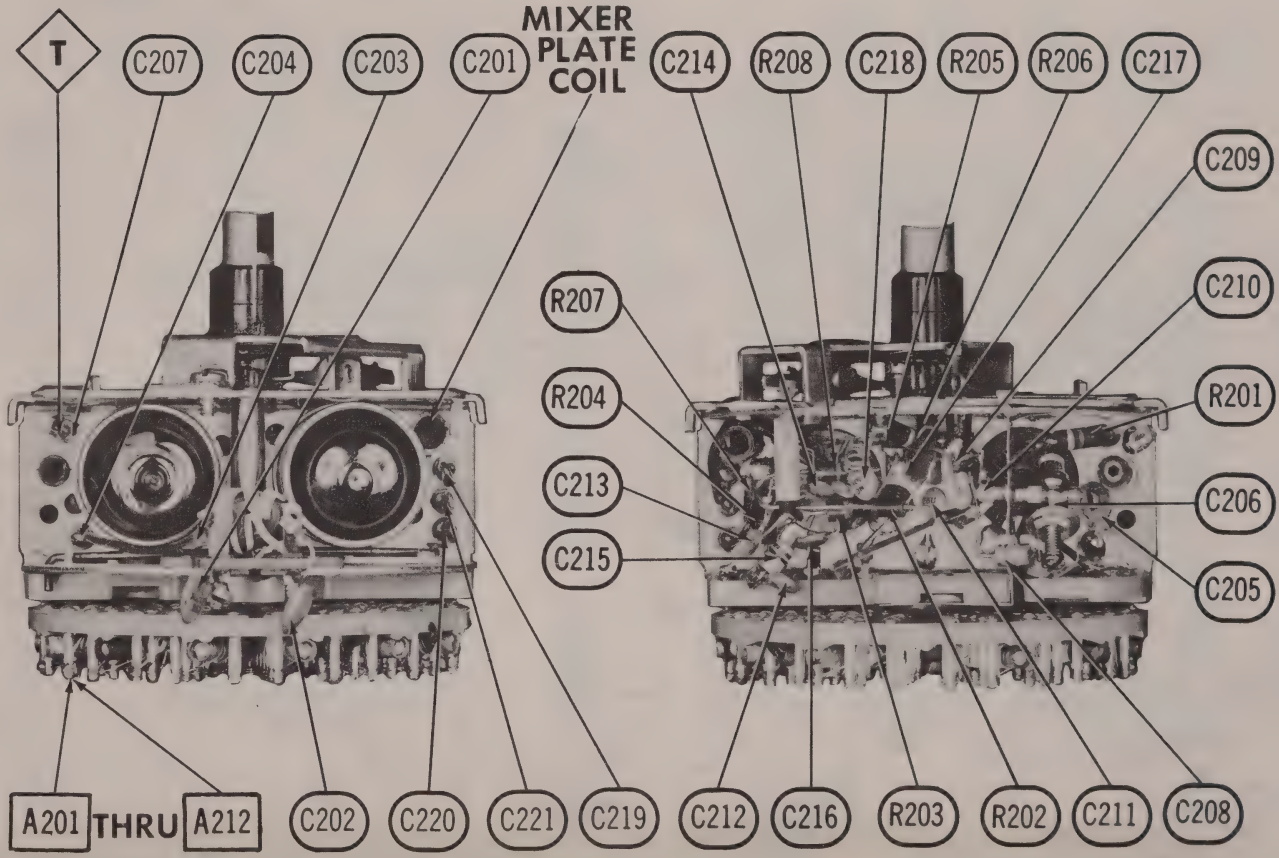
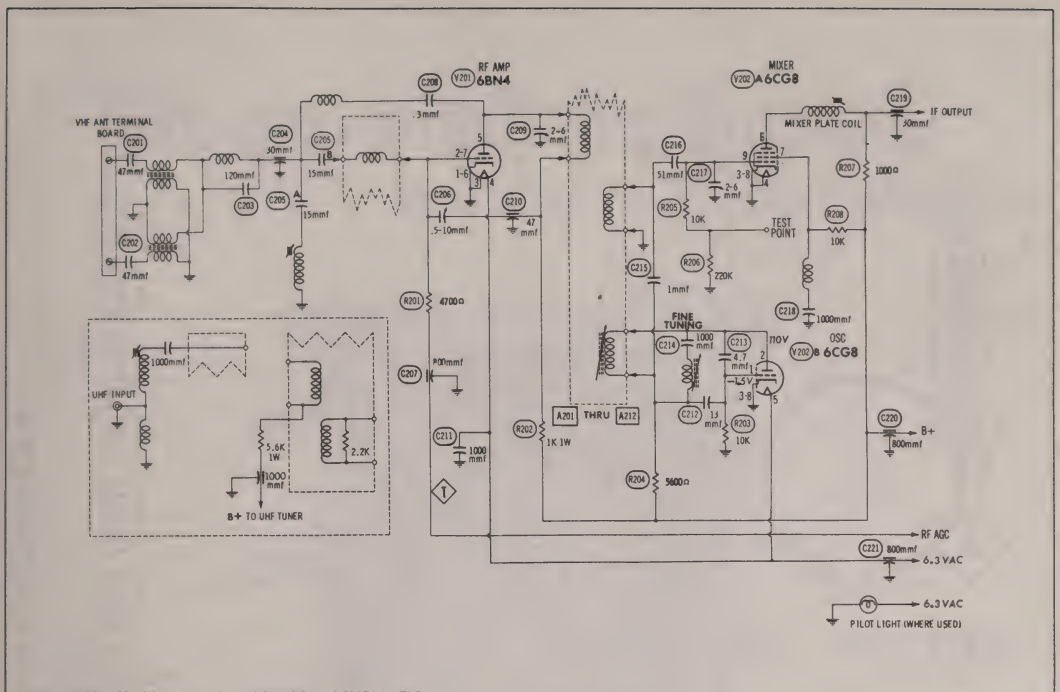
VHF TUNER 700822-1, 700823-1

MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10



VHF TUNER 700731-1



A PHOTOFACT STANDARD NOTATION SCHEMATIC
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VHF TUNER -700731-1, 700732-1

TUNER PARTS LIST AND DESCRIPTIONS

700731-1, 700732-1

TUBES

• GENERAL ELECTRIC •			• RAYTHEON • SYLVANIA •		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	6BN4	V202	Mixer-Osc.	6CG8

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	47		BPD-000047	DD-470	L10Q47	CCD-470	CNO-447	10TS-Q47
C202	47		BPD-000047	DD-470	L10Q47	CCD-470	CNO-447	10TS-Q47
C203	120 10%		DI-20	DD-121	L10T12	CCD-121	CNO-312	10TS-T12
C204	30							
C205A	15		BPD-000015	DD-150	L10Q15	CCD-150	CNO-415	10TS-Q15
B	15		BPD-000015	DD-150	L10Q15	CCD-150	CNO-415	10TS-Q15
C206	.5-10			829-10				
C207	800		EF-001	MFT-1000		CCF-102	CT280A	
C208	.3							
C209	2-6			829-6		CV-3	CT552	
C210	47		EF-00005	MFT-50				
C211	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C212	13 N220 5%					*		10TCR-Q12
C213	4.7 N220 ±.25mmf					*		10TCR-V47
C214	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C215	1.0		NPO-SI 1	TCZ-1			CNO-510	10TCC-V10
C216	51 N750 10%		N750-SI 51	TCN-51	C10Q51U	CCTN-560	CNT-456	10TCU-Q56
C217	2-6			829-6		CV-3	CT552	
C218	30							
C219	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C220	30							
C221	800		EF-001	MFT-1000		CCF-102	CT280A	
C222	800		EF-001	MFT-1000		CCF-102	CT280A	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

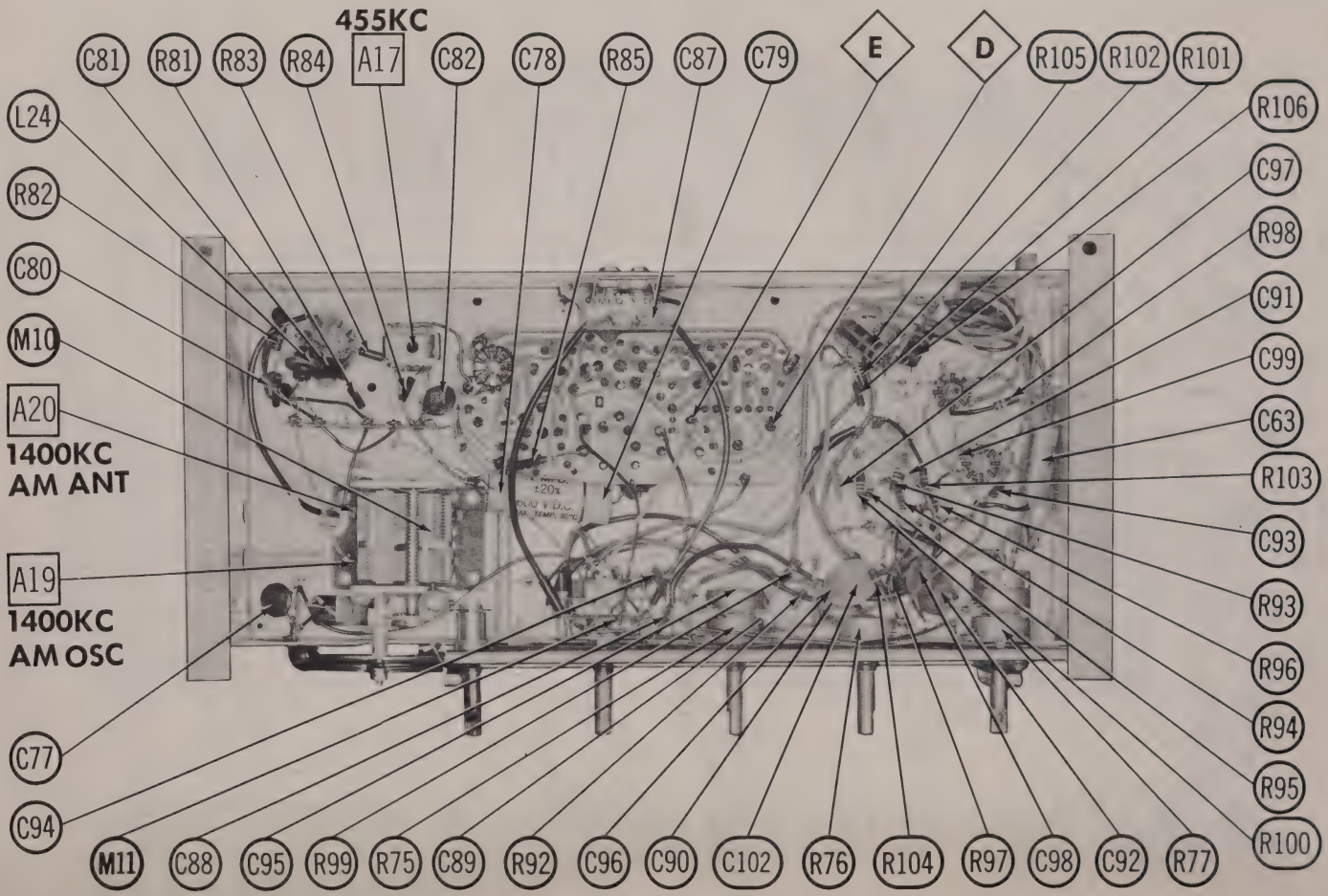
RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

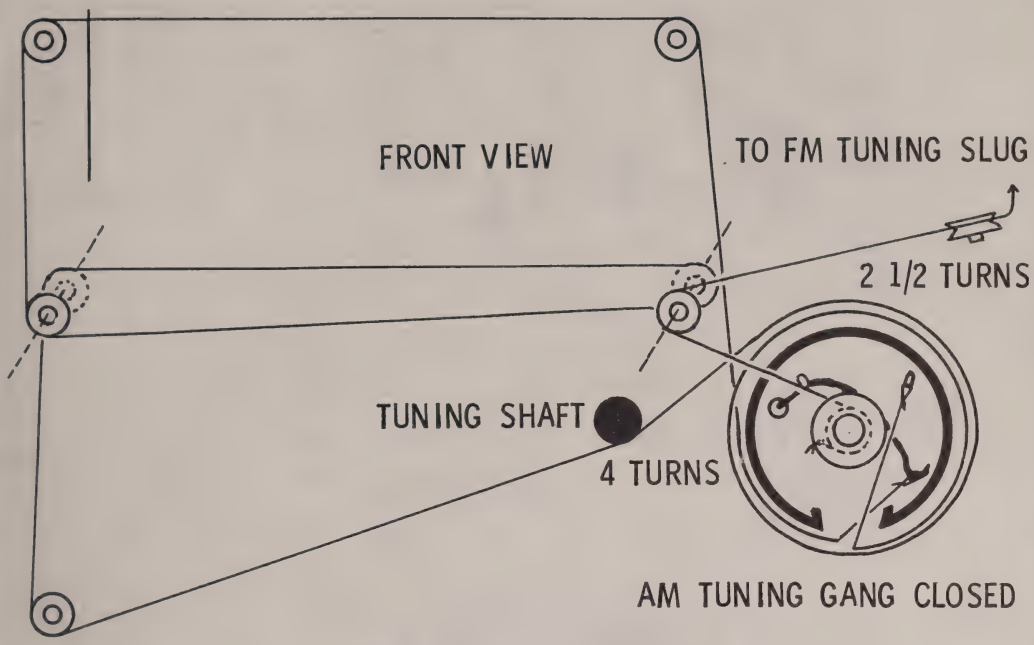
ITEM No.	RATING	REMARKS
R201	4700Ω	
R202	1000Ω 1W	
R203	10K	

ITEM No.	RATING	REMARKS
R204	5600Ω	
R205	10K	

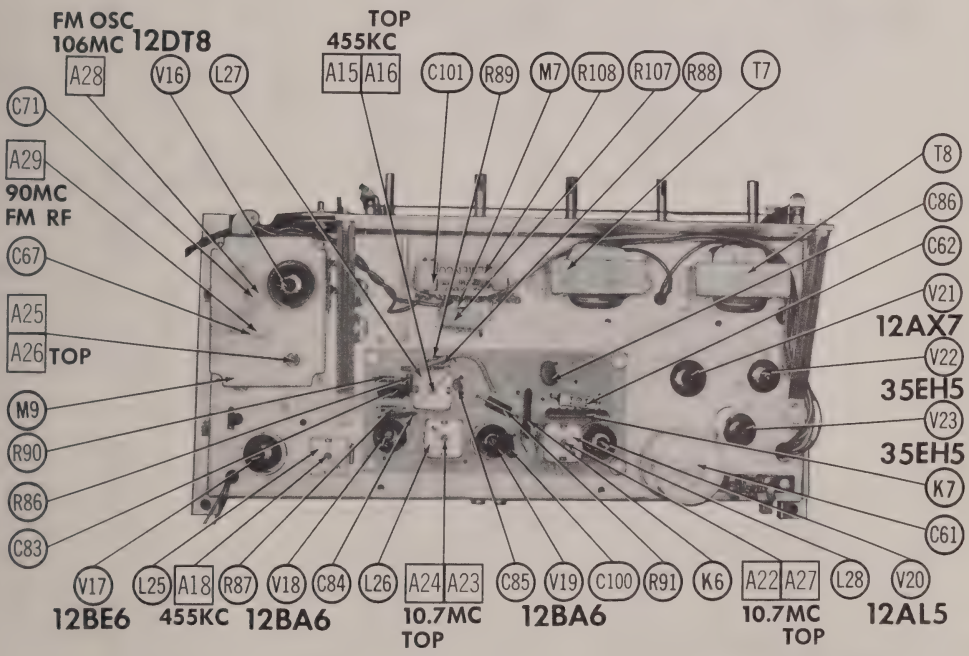
ITEM No.	RATING	REMARKS
R206	220K	
R207	1000Ω	



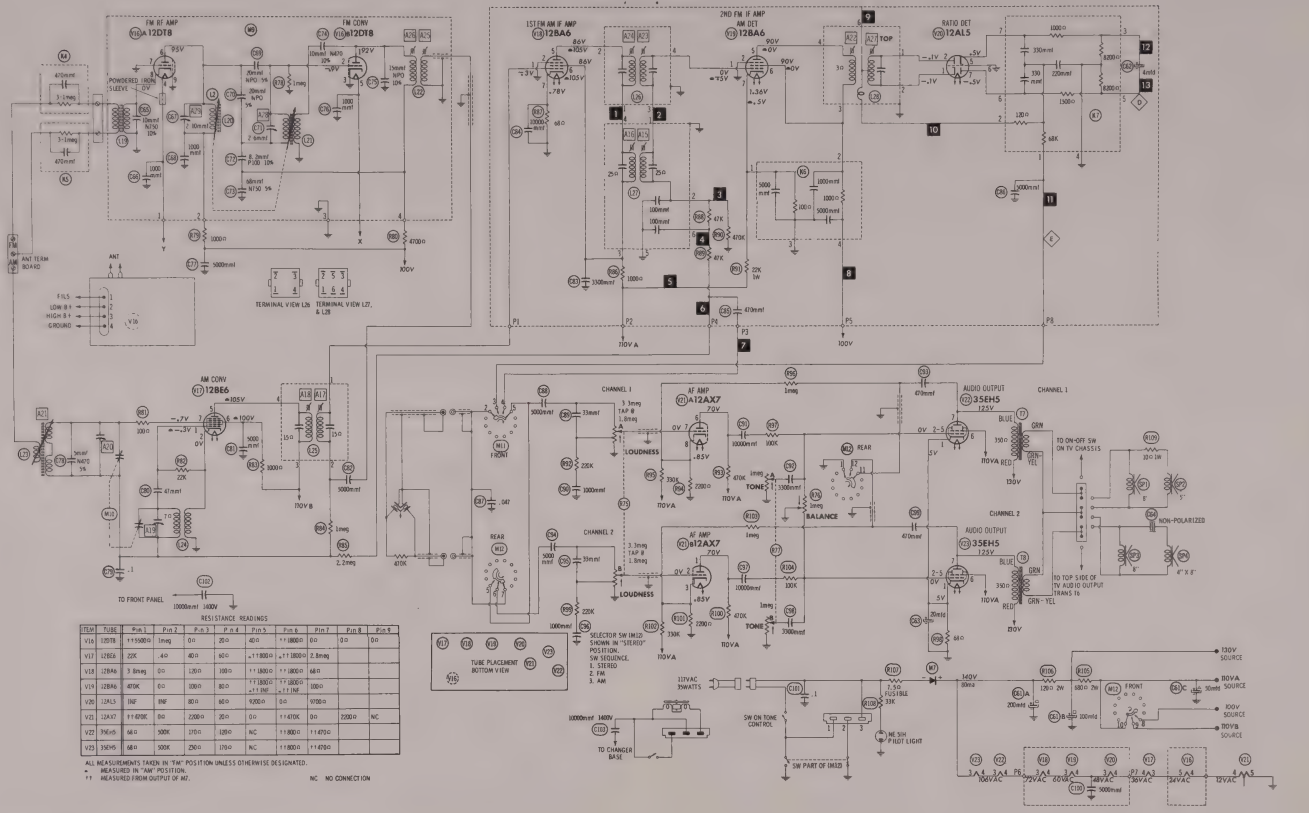
FM-AM RADIO CHASSIS 62-02-10 - BOTTOM VIEW



FM-AM DIAL CORD STRINGING



FM-AM RADIO CHASSIS 62-02-10 - TOP VIEW



ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V16	12DT8	††15600Ω	1meg	0Ω	20Ω	40Ω	††1800Ω	0Ω	0Ω	0Ω
V17	12BE6	22K	4Ω	40Ω	60Ω	▲††1800Ω	▲††1800Ω	2.8meg		
V18	12BA6	3.8meg	0Ω	135Ω	100Ω	††1800Ω	††1800Ω	68Ω		
V19	12BA6	470K	0Ω	100Ω	80Ω	††1800Ω ††1MΩ	††1800Ω ††1MΩ	100Ω		
V20	12AL5	INF	INF	80Ω	90Ω	9200Ω	0Ω	9200Ω		
V21	12AX7	††470K	0Ω	2200Ω	250Ω	0Ω	††470K	0Ω	2200Ω	NC
V22	12AX7	68Ω	500K	270Ω	1250Ω	NC	††1800Ω	††470Ω		
V23	35EH5	68Ω	500K	250Ω	170Ω	NC	††1800Ω	††470Ω		

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
▲ MEASURED IN "AM" POSITION.
†† MEASURED FROM OUTPUT OF ANT.

NC NO CONNECTION

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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FM-AM RADIO (WITH STEREO AMP) 62-02-00 OR 62-02-10

TV PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (• GENERAL ELECTRIC • RAYTHEON • SYLVANIA •)
V1	1st Video IF Amp.	6BZ6
V2	2nd Video IF Amp.	6BZ6
V3	3rd Video IF Amp.	6CB6A
V4	Video Output - Sync Sep.	6EB8
V5	AGC Keying - Sync Phase Inv.	6GH8
V6	Sound IF Amp.	6AU6A
V7	Audio Det.	6DT6
V8	Audio Output	6DG6GT (6W6GT) *
V9	Vert. Osc. - Vert. Output	6CM7
V10	Horiz. Mult.	6CG7
V11	Horiz. Output	6DQ6A
V12	Damper	6AX4GTB
V13	HV Rectifier	1G3GT/1B3GT (1G3GT) *
V14	LV Rectifier	5U4GB

* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA					NOTES
	MAGNAVOX PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
V15	21DLP4 24AUP4		21DLP4 ① 24AUP4 ①	21DLP4 ① 24AUP4 ①	21DLP4 ② 24AUP4 ②	① Aluminized ② Silver Screen "85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	■40	350	270021-62	AFH3-154-30	C1104	FP368.5	TMQ-4265	TVL-3756	
B	▲70	350							
C	▲50	50							
C2A	▲30	350	270021-64	AFH4-56-93.5	D0418	FP420.33	TMQ-4289	TVL-4634.7	
B	■20	350							
C	▲5	350							
D	100	200							
C3	20	350	270027-20	PRS1735	BR2035	TC65	TD-20-350	TVA-1608	
C4	20	350	270027-20	PRS1735	BR2035	TC65	TD-20-350	TVA-1608	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING			REMARKS	REPLACEMENT DATA					
					AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C5	.22	200V			P288N-22		CUB2P22	2DP-4-224	GEM-2022	2TM-P22
C6	.22	200V			P288N-22		CUB2P22	2DP-4-224	GEM-2022	2TM-P22
C7	27	NPO	5%		NPO-DI 25	TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C8	470			Note 1	BPD-00047	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C9	12	NPO	5%			TCZ-12	C10Q12C	CCTO-120	CNO-412	10TCC-Q12
C10	13	NPO	5%			TCZ-13	C10Q13C	CCTO-120	CNO-412	10TCC-Q12
C11	10000				BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C12	.5-3					829-3		CV-1	CT565	
C13	800		10%		DI-820	DD-801	5R5T8	CCD-801	GP382	10TS-T80
C14	1	NPO			NPO-SI 1.0	TCZ-1			CNO-510	10TCC-V10
C15	27	NPO	5%		NPO-DI 25	TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C16	680				BPD-00068	DD-681	BYA10T68	CCD-681	B-368	10TS-T68
C17	800				BPD-0008	DD-801	5R5T8	CCD-801	B-382	10TS-T80
C18	680				BPD-00068	DD-681	BYA10T68	CCD-681	B-368	10TS-T68
C19	.82	NPO	5%	Pt. #250088-182						
C20	20	NPO	5%		NPO-DI 20	DTZ-20	C10Q20C	CCTO-200	CNO-420	10TCC-Q20
C21	8	NPO	5%		NPO-DI 8.2		C10V8C			10TCC-V82
C22	800		10%		DI-820	DD-801	5R5T8	CCD-801	GP382	10TS-T80
C23	1500				BPD-0015	DD-152	BYA10D15	CCD-152	B-215	5HK-D15
C24	680				BPD-00068	DD-681	BYA10T68	CCD-681	B-368	10TS-T68
C25	.1	200V			P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C26	.1	400V			P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C27	47	NPO	10%		NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C28	.047	600V	10%		V84C6S47-10%		PM6S47	6DP-3-473	GEM-1615	6TM-S47
C29	3.3		10%		NPO-SI 3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33
C30	3900				DI-4000	DD-392	L10D39	CCD-392	GP239	10TS-D39
C31	10000				BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C32	220				BPD-00022	DD-221	L10T22	CCD-221	B-322	10TS-T22
C33	10000				BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C34	10000				BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C35	20000				BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C36	10000				BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C37	1500			(2000) †	BPD-0015	DD-152	BYA10D15	CCD-152	B-215	5HK-D15
C38	2000				BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C39	470				BPD-00047	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C40	2000				BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C41	150				1468-00015	TCZ-150	5W5T15	CM-19B-151M	MC236	1FM-315
C42	.1	400V			P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C43	10000				BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C44	.0051	400V	5%		V84C6D5-5%		1R5D51	6DP-1-502-5%	MCE465	
C45	.0047	400V			P488N-0047	D6-472	CUB6D47	6DP-1-472	GEM-6247	6TM-D47
C46	.1	400V			P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C47	.1	600V			P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C48	.047	200V	10%		V84C2S47-10%		PM2S47	4DP-3-473	GEM-1615	2TM-S47
C49	800		10%		DI-820	DD-801	5R5T8	CCD-801	GP382	10TS-T80
C50	.0039	200V	10%		P684CM-0039		DPMSD39	6DP-1-392	JL-239	6PS-D39
C51	47	NPO	10%		NPO-DI 47	DTZ-47	L10Q47	CCTO-470	CNO-447	10TCC-Q47
C52	360		5%		1469-00036		5R5T36	CM-19B-361J		MS-336
C53	430		5%		1469-00043		5R5T43	CM-19B-431J		MS-343
C54	1000				BPD-001	DD-102	BYA10D1	CCD-103	B-210	5HK-D10
C55	1000		10%		DI-1000	DD-102	5R5D1	CCD-103	GP210	10TS-D10
C56	.047	400V			P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-6147	4TM-S47
C57	1000	2000V			HVD-30-1000	DD30-102	HVB20D1	3CCD-102	2HV-210	BL-D10
C58	.047	600V			P688N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47
C59	68	2000V	N750	10% Pt. #250175-22						
C60	10000	1400V			DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10

† Alternate Value.

Note 1. Chassis 33-01, -02 use 220mmf in this application. C8 not used in Chassis 33-03, -04, -06.

TV PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA: MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS–IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	RESISTANCE	WATTS	82CTR-78	B-70-8	A47-1meg-Z	Q13-157	U53	Volume
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
C	Switch			Not Req.	SW2-30	76-3	U5-37	Power Off–On
	1meg	½	82CTR-7	BPL-70	C47B-1meg-Z	B13-157	PP18A	Volumes Note 1
	Shaft			Not Req.	FS-3	SKT	Not Req.	
	Switch			Not Req.	SW2-30	Not Req.	Not Req.	Push-Pull Off–On
R3A	800Ω	½	23CR30-T3	B-468	A47-750-B	Q27-105	U3	Contrast
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R3A	90K	½	23CR68-9	T7-51	B47-90K-B	B11-132	PTA24L	Horiz. Hold
B	Shaft			Not Req.	Not Req.	T7M4	Not Req.	
R4A	200K	½	23CR48-10	T7-46	B47-200K-B	B11-139	U43	Brightness
B	Shaft			Not Req.	Not Req.	T7M4	Not Req.	
R5A	1.5meg	½	23CR46-11	T7-743	B47-1.5meg-B	B11-138	PTA28L	Vert. Hold
B	Shaft			Not Req.	Not Req.	Not Req.	Not Req.	
R6A	3000Ω	½	23CR49-8	T7-8	B47-3000-B	B11-115	PTA25LL	Vert. Linearity
B	Shaft			Not Req.	Not Req.	Not Req.	Not Req.	
RT	2.5meg	½	23CR53-7	T7-53	B47-2.5meg-C	H1C3	TA28LL	Height

Note 1. Used in Chassis U, V33-01, -02, -03, -04.

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R8	470K	
R9	15K	
R10	1kΩ	
R11	22K	
R12	6800Ω	
R13	1500Ω	
R14	47Ω	
R15	1500Ω	
R16	12K	
R17	1500Ω	
R18	47Ω	
R19	12K	
R20	1500Ω	
R21	1.2kΩ	
R22	2900Ω	
R23	47kΩ	
R24	43000 5W	Pt. #240078-22 (RC49W5-4300Ω)
R25	22K	
R26	22K	
R27	68K 1W	
R28	10Ω	
R29	270K	

ITEM No.	RATING	REMARKS
R30	1K	
R31	270K	
R32	270K	
R33	33000 1W	
R34	15K	
R35	33K	
R36	680K	
R37	1500Ω	
R38	270Ω	
R39	270K	
R40	470K	
R41	6800Ω	
R42	1.5meg	
R44	1meg	
R45	220Ω 2W	
R46	3300Ω	
R47	470Ω	
R48	2.2meg	
R49	4.7meg	
R50	100K	
R51	2meg	
R52	22K	

Note 1: Used in Chassis U, V33-01, -02, -03, -04.

ITEM No.	RATING	REMARKS
R53	1meg 1W	
R54	680K	
R55	600K (Cold)	Pt. #230130-2
R56	1000Ω	
R57	270Ω	
R58	27Ω	
R59	1MΩ 2W	
R60	4.7meg	
R61	5600Ω	
R62	1500Ω	
R63	100K	
R64	130K	
R65	6800Ω	
R66	4700Ω	
R67	470K 5W	Pt. #240078-21 (RC49W5-4500Ω)
R68	45000 5W	
R69	8200Ω	
R70	8200Ω	
R71	4.7Ω 1W	
R72	680Ω 1W	
R73	10Ω	
R74	22Ω 1W	

Note 1. May not be used in some versions.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MAGNAVOX PART No.
K1	Tuner AGC Filter	56K, 330K, 820K, .9 meg	250249-1
K2	Sync Phase Inverter Comp.	3300Ω, 3300Ω, 12K, 82K, 1meg	250244-1
K3	AFC Comp.	1000mmf, 1000mmf, 4700mmf, 100K, 100K, 47UK	250345-1

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA: MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	NOTES
L4A	41.25MC Trap	360502-1	TV-131	6226	RTC-8526	
B	47.25MC Trap		TV-153	6225	RTC-8556	
L5	1st Video IF	360798-1	TV-131	6226	RTC-8526	
L3	39.75MC Trap	360501-1	TV-152	6225	RTC-8556	
L4	2nd Video IF	360799-1	TV-130	6219	RTC-8531	
L5	47.25MC Trap	360502-1	TV-153	6225	RTC-8556	
L6	3rd Video IF	360799-2	TV-130	6219	RTC-8531	
L7A	4th Video IF	360800-1 ①				
B	RF Choke		BC-543	4606	RTC-8517	
C	RF Choke		BC-566	4611	RTC-8512	
L8	Peaking Coil	360532-16	TV-191	6130	RTC-8578	
L9	Peaking Coil	360532-7	TV-202	6126	RTC-8579	
L10	4.5MC Trap	360505-1	TV-151	1470	RTC-8503	
L11	Peaking Coil	360532-18	TV-195	6152	RTC-8585	
L12	1st Sound IF	360772-1	TV-119	1470	RTC-8503	
L13	2nd Sound IF	360751-2	TV-149			
L14	Quadrature Coil	360755-2	TV-134	1418	RTC-8508	
L15	RF Choke	360501-6	BC-564	4605	RTC-8518	3.3uh

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L16	Horiz. Stabilizer	360579-2	TV-153	6226	RTC-8526	51S-5	WLC-25
L17	Width Coil (7-33MH)	360698-1	RFWC-141 ①	6315 ①	QHC1104 ①	WC-18 ①	WC-19 ①	WLC-3 ①

① Drill new mounting hole(s).

FILTER CHOKE

ITEM No.	RATINGS: CURRENT (Measured)	DC RES.	INDUCTANCE @ CURRENT 1000 ⁻¹	REPLACEMENT DATA: MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
L18	240A	40Ω	0042 Hy.	320058-4 ①			C-36X		① Alternate Part #320058-1.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI	SEC 1	SEC 2	REPLACEMENT DATA: MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V	550VCT	5V	830017GGI ①		P-8355	R-75BA		① Alternate Part #300170-1.
	& 1.5A	@ 240A DC	@ 3A						
	SEC 3	SEC 4	SEC 5						
	6.3V @ 8.5A								

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: MAGNAVOX PART No.	Merit PART No.	Rogers PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	Vert. Osc.	320283-5	A-3003	VH01F	A-8125	26A03	A-97X	
T3	Vert. Output	320283-3	A-3134 ③	V18I ①	A-8141 ①	26S14 ①	A-118X	
T4	Yoke Horiz. (30MH)	360780-1	MDF-93 ③	PCM2048 ② ③	DY-16A ①	Y-16 ① ③	Y-61 ③ ④	
	(90°) Vert. (40MH)			③				
	Alt. Yoke	360703-1					YC113	
	Rear Cover and Centering Device	360778-1						
T5	Horiz. Output	360777-1	HVO-175 * ③		RO-333 *	FLY156 *	D-192 *	

① Drill new mounting hole(s).
② Cut and tape blanking lead.
③ Requires new rear cover, centering device and yoke clamp.
④ Mount with leads out top; connect same as original. Remove horiz. and vert. damping networks from yoke.
⑤ Use original mounting bolts.

* HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type is Listed

ORIGINAL TERMINAL CONNECTIONS	Merit PART No. Replacement Connections	Merit PART No. Replacement Connections	Stancor PART No. Replacement Connections	Thordarson PART No. Replacement Connections	Triad PART No. Replacement Connections
1	8	8	8	8	1
2	5	5	5	5	3
4	3	3	3	3	4
5	2	2	2	2	8
6	1	1	1	1	6
Connect With Coil Lead	6 & 8	2 & 1	2 & 1	2 & 1	6 & 8

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	SEC.	REPLACEMENT DATA: MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T9	3800Ω	3-4Ω	320089-1 ①	A-3018	A-3149	26B20	S-54X	① Alternate Part #320279-1.

RECTIFIERS

ITEM No.	RATING: CURRENT (Measured)	REPLACEMENT DATA: MAGNAVOX PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	NOTES
M1		530045-3 *	6GD8 *				* Selenium Diode

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA: MAGNAVOX PART No. FUSE	MAGNAVOX PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M2	3AG	1/4 A 250V 8/9 length of #24 wire	180157-30		313. 250 (3AG 1/4A 250V 3/8)	357001	MDL 1/4	4405
M3	1 1/2"							

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA: MAGNAVOX PART No.	RAYTHEON PART No.	SYLVANIA PART No.	NOTES
M4	1N64		1N64	1N64	Video Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M5	Tuner	700493-1	VHF, STANDARD COIL REPLACEMENT #GG-4230A
	Tuner	700731-1	VHF
	Tuner	700928-4	VHF, with UHF Provisions
	Tuner	700732-1	VHF, with UHF Provisions
	Tuner	700888-1	UHF
M6	Magnet	280493-11	Ion Trap (Spirets Reduction)

CABINETS & CABINET PARTS

When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869
Shielded Hook-up Wire	Use BELDEN No. 8685 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No. 8476
300Ω Tuner Input Lead	Use BELDEN No. 8223
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8484 (Stud) – 4 Conductor 8485 (Round) – 5 Conductor 8486 (Round) – 8 Conductor

FM–AM RADIO PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	* GENERAL ELECTRIC * USE	TYPE	ITEM No.	* RAYTHEON * USE	TYPE	ITEM No.	* SYLVANIA * USE	TYPE
V16	FM RF Amp. – FM Conv.	12DT8	V20	Ratio Det	12AL5			
V17	AM Conv.	12BE6	V21	Channel 1 AF Amp. – Channel 2 AF Amp.	12AX7			
V16	1st FM IF Amp. – AM IF Amp	12BA6	V22	Channel 1 Output	35S5			
V19	2nd FM IF Amp. – AM Det.	12BA6	V23	Channel 2 Output	35S5			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING: CAP	VOLT	REPLACEMENT DATA: MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C81A	200	150	270031-88	AF313-13-50	ZC0127	FPR1.5	TMT-8166	TVL-3450	
B	400	150							
C	450	150							
C82	4	50	270259-9	PWK50005	NLW5-50	TT5X24	M14-50	TE-1302.1	
C83	20	25	270037-38	SRE25V20	BBR20-25	TC48	T0-20-160	TVA-1305.8	
C84	15	25V2	270040-4	PRE75V2	BBR15-150	TCNB16		TVA8-204.3 *	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C65	10	N750 10%		N750-1E 10	TCN-10	C10Q1E	CCT5Y-100	CMT-410	10TCC-Q10
C66	1000			1E 1000	D5-102	BYA10D1	CCD-102	B-2D	5HK-D10
C67	8-10		Pt. #250306-1						
C68	1000			1E 1000	D5-102	BYA10D1	CCD-102	B-2D	5HK-D10
C69	30	NPO 5%		NPO-3E0	TCZ-30	C10Q3C	CCCY1-300	CNO-430	10TCC-Q30
C70	30	NPO 5%		NPO-3E0	TCZ-30	C10Q3C	CCCY1-300	CNO-430	10TCC-Q30
C71	3-6		Pt. #250307-1						
C72	5.2	P100 10%	Pt. #250301-1						
C73	68	N750 5%		N750-6E 68	TCN-68	C10Q6EU	CCCY5-680	CNT-486	10TCU-Q68
C74	10	N470 10%	Pt. #250313-1						
C75	15	NPO 10%		NPO-1E 15	TCE-15	C10Q1EC	CCD-150	CNO-415	10TCC-Q15
C76	1000			1E 1000	D5-102	BYA10A	CCD-102	B-2D	5HK-D10
C77	5000			BPD-506	DD-502	BYA10D5	CCD-152	B-2D	5HK-D50
C78	9	N470 5%	Pt. #250088-188						
C79	.1	600V		PE68N-1	DF-104	CU68P1	6DP-4-104	GEM-401	67M-P10
C80	.47			2E-47	DD-47	LD0A7	CCD-47	GF647	10TCB-Q47
C81	5000			BPD-506	DD-502	BYA10D5	CCD-502	B-2D	5HK-D50
C82	5000			BPD-506	DD-502	BYA10D5	CCD-502	B-2D	5HK-D50
C83	3300			BPD-0033	DD-332	BYA10D33	CCD-332	B-2D	5HK-D33
C84	10000			BPD-103	DD-103	BYA10B	CCD-103	B-2D	5HK-D10
C85	470			BPD-00047	DD-471	BYA10T47	CCD-471	B-2D	10TB-T47
C86	5000			BPD-506	DD-502	BYA10D5	CCD-502	B-2D	5HK-D50
C87	.047	600V		PE68N-047	CUB8847	6DP-4-473	GEM-4147	GEM-4147	67M-S47
C88	5000			BPD-506	DD-502	BYA10D5	CCD-502	B-2D	5HK-D50
C89	5000			1465-500033	TCZ-33	WW5Q33	CM-1H5-330M	CNC-433	10TM-S33
C90	1000			BPD-101	DD-101	BYA10A	CCD-103	B-2D	5HK-D10
C91	10000			BPD-103	DD-103	BYA10B	CCD-103	B-2D	5HK-D10
C92	3300			BPD-0033	DD-332	BYA10D33	CCD-332	B-2D	5HK-D33
C93	3300			BPD-00047	DD-471	BYA10T47	CCD-471	B-2D	10TB-T47
C94	5000			BPD-506	DD-502	BYA10D5	CCD-502	B-2D	5HK-D50
C95	33			1465-500033	TCZ-33	WW5Q33	CM-1H5-330M	CNC-433	10TM-S33
C96	1000			BPD-101	DD-101	BYA10D1	CCD-102	B-2D	5HK-D10
C97	10000			BPD-103	DD-103	BYA10B	CCD-103	B-2D	5HK-D10
C98	3300			BPD-0033	DD-332	BYA10D33	CCD-332	B-2D	5HK-D33
C99	470			BPD-00047	DD-471	BYA10T47	CCD-471	B-2D	10TB-T47
C100	5000			BPD-506	DD-502	BYA10D5	CCD-502	B-2D	5HK-D50
C101	.1	600V		PE68N-1	DF-104	CU68P1	6DP-4-104	GEM-401	67M-P10
C102	10000	1400V		DAC-37	DDR8-103	HVE18B	18DP-3-103	UAC-110	B1-B10
C103	10000	1400V		DAC-37	DDR8-103	HVE18B	18DP-3-103	UAC-110	B1-B10

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA: MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS–IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
	RESISTANCE	WATTS						
R75A	3.5meg	½	223151-28	B7-180 *			FA28DT155 *	Loudness, Channel 1
B	3.5meg tap	½		STR-180 *			RU28DT155 *	Loudness, Channel 2
	Shaft							
	Switch			Not Req.			CB3500	
R76A	1meg	½	220072-64	B-69	A47-1meg-B	QU-137	U54	Balance
	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R77A	1meg	½	220150-11	B-70	A24T-1meg-Z		FA16A	Tone, Channel 1
B	1meg	½		BK-70	Not Req.		RU16A	Tone, Channel 2
C	Shaft			Not Req.	FS-3		CB2500	
D	Switch			KN-1	SW2-12		U54	Power Off–On

* Use Tap #3 (1.5meg).

FM—AM RADIO PARTS LIST (Continued)

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R78	1meg	
R79	1000Ω	
R80	4700Ω	
R81	100Ω	
R82	22K	
R83	1000Ω	
R84	1meg	
R85	2. 2meg	
R86	1000Ω	
R87	68Ω	
R88	47K	

ITEM No.	RATING	REMARKS
R89	47K	
R90	470K	
R91	22K 1W	
R92	220K	
R93	470K	
R94	2200Ω	
R95	330K	
R96	1meg	
R97	100K	
R98	68Ω	
R99	220K	

ITEM No.	RATING	REMARKS
R100	470K	
R101	2200Ω	
R102	330K	
R103	1meg	
R104	100K	
R105	680Ω 2W	
R106	120Ω 2W	
R107	7.5Ω FR	Pt. #240084-4 IRC #FR-7.5Ω
R108	33K	
R109	10Ω 1W	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MAGNAVOX PART No.	REPLACEMENT DATA
K4	FM Antenna Filter	470mmf, .3-1meg	250233-1	Centralab RC-471 Sprague AC1-1
K5	FM Antenna Filter	470mmf, .3-1meg	250233-1	Centralab RC-471 Sprague AC1-1
K6	2nd FM IF Cathode	1000mmf, 5000mmf, 5000mmf, 100Ω, 1000Ω	250330-1	
K7	Ratio Detector Comp.	220mmf, 330mmf, 330mmf, 120Ω, 1000Ω, 1500Ω, 8200Ω, 8200Ω, 68K	250254-1	Centralab PC-354

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L19	FM Ant. Trans.	360789-1				
L20	FM RF Coil	360791-1 ①				① Includes Complete Assembly.
L21	FM Osc. Coil					
L22	1st FM IF Trans.	360790-1				
L23	Loopstick	360782-3	BC-419	705-A		
L24	AM Osc. Coil	360702-1	BC-397	70-OSC	RTC-8647	
L25	1st AM IF Trans.	360611-1	BC-352	12-C1	RTC-8632	
L26	2nd FM IF Trans.	360747-1	FM-256	1463-PC	RTC-9046	
L27	2nd AM IF Trans.	360781-2	BC-320	13-PC-6	RTC-8643	
L28	Ratio Detector	360748-1	FM-257	1465-PC	RTC-9053	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T7	5800Ω	3-4Ω	320082-3	A-3019	A-8092	26S49	S-5Z	
T8	5800Ω	3-4Ω	320082-3	A-3019	A-8092	26S49	S-5Z	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MAGNAVOX PART No.	QUAM PART No.	
SP1	8"	PM	3-4Ω	580070	8A31	
SP2	5"	PM	3-4Ω	580058-1	5A15TZ3. 8	
SP3	8"	PM	3-4Ω	580071	8A31	
SP4	4" x 8"	PM	6-8Ω	584008-1	4BA2Z6. 4	

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA					NOTES
	CURRENT (Measured)	MAGNAVOX PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	
M7	.080A	530051-2 *		1N1763 *	40H *	SR500 *	* Silicon Type

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA								NOTES
	MAGNAVOX PART No.		ASTATIC PART No.		ELECTRO-VOICE PART No.		SONOTONE PART No.		
	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	
M8			13TB	Not Req.	26S	S1-1 * & S3-3 *	8TA4-S	N-8TA-S *	

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M9	FM Tuner	700771	Complete
M10	Tuning Cap.	260154-2	AM, 2 Gang, Ant. 4-348mmf, Osc. 15-105mmf
M11	Switch	160334-1	Band Selector (Rotary Wafer Type)
	Printed Board	210051-2	

FM-AM RADIO ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Loudness Control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A15 thru A18, A22, A23, A24, A27 .... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520

A19, A20, A28, A29 ..... GENERAL CEMENT #5097, 8727
WALSCO #2515

A25, A26 ..... GENERAL CEMENT #9440

AM ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to pin 7 (grid) of AM Converter Low side to chassis.	455KC (400∿ Mod.)	(AM) Tuning gang fully open	Across voice coil	A15, A16, A17, A18	Adjust for maximum output.
2.	High side thru 10mmf Ceramic Capacitor to AM Antenna Terminal. Low side to chassis.	1400KC	1400KC	"	A19, A20	"
3.	"	600KC	600KC	"	A21	Adjust for maximum output. Repeat steps 2 and 3.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
4.	High side to an ungrounded tube shield floating over FM RF Amp. Low side to chassis.	10.7MC (Unmod.)	(FM) High Freq. end	DC probe thru 1 meg to poing (D). Common to chassis.	A22, A23 A24, A25 A26	Adjust for maximum deflection.
5.	"	"	"	DC probe thru 1 meg to point (E). Common to chassis.	A27	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
4.	High side to ungrounded tube shield floating over FM RF Amp. Low side to chassis.	10.7MC (450KC Swp)	(FM) High Freq. end	Vert. Amp. thru 1meg to point (D). Low side to chassis.	A22, A23 A24, A25 A26	Disconnect stabilizing capacitor (C62). Adjust for maximum gain and symmetry of response similar to Fig. 3 with markers as shown .
5.	"	"	"	Vert. Amp. thru 1meg to point (E). Low side to chassis.	A27	Reconnect C62. Adjust to place marker at the center of crossover lines similar to Fig. 4. SLIGHTLY retouch A8 for maximum amplitude and straightness of crossover lines. Repeat steps 4 & 5.

FM RF ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
6.	High side to an ungrounded tube shield floating over FM RF Amp. Low side to chassis.	106MC (Unmod.)	(FM) 106MC	DC probe thru 1 meg to point (D). Common to chassis.	A28	Adjust for maximum deflection.
7.	"	90MC	90MC	"	A29	Adjust for maximum deflection. Repeat steps 6 and 7.

FIG. 3

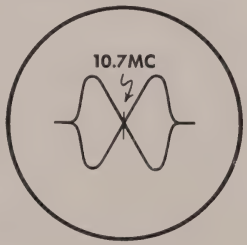
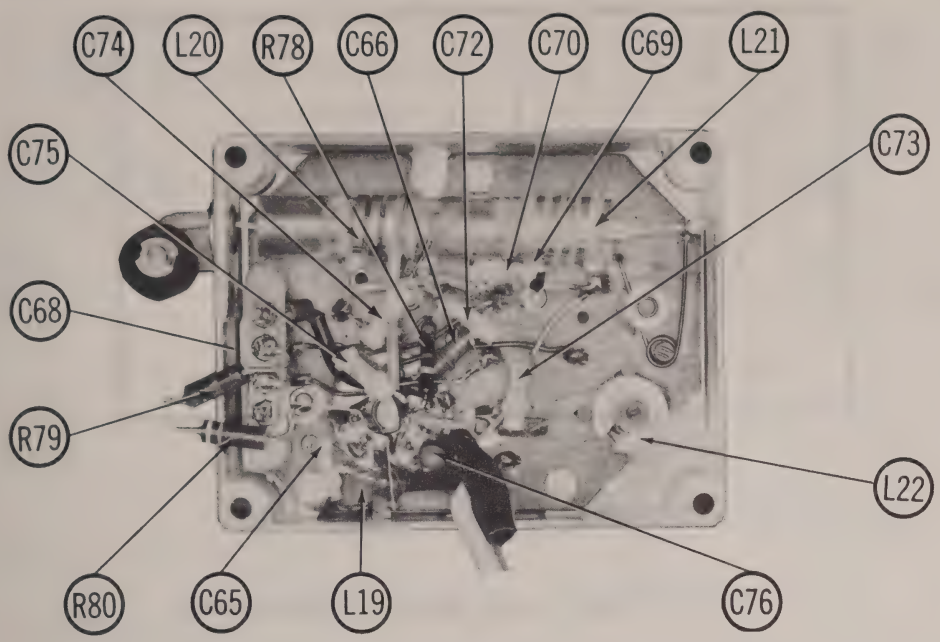
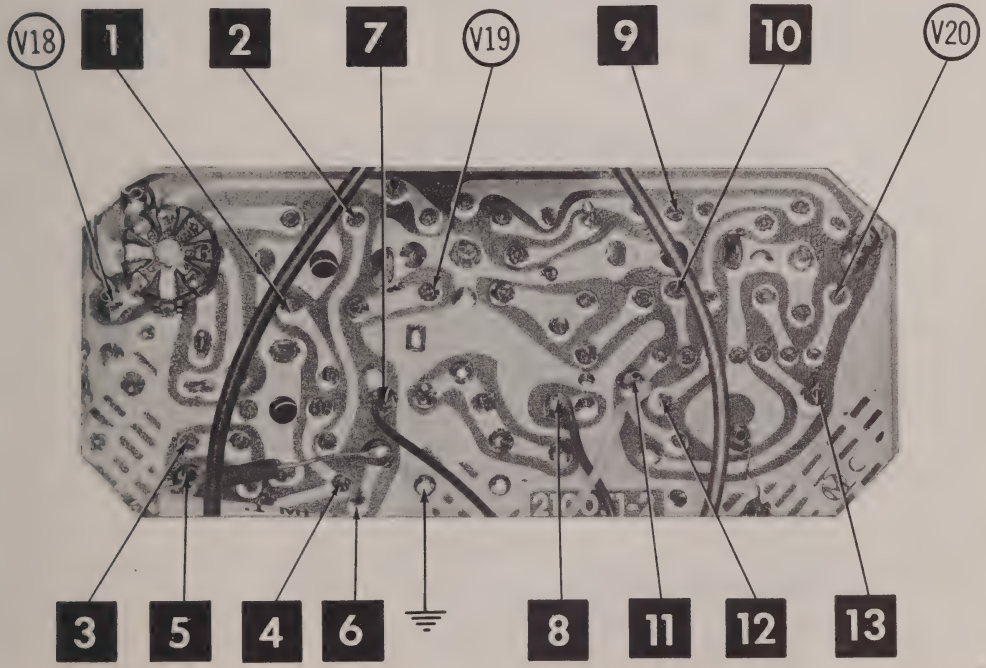


FIG. 4



FM TUNER



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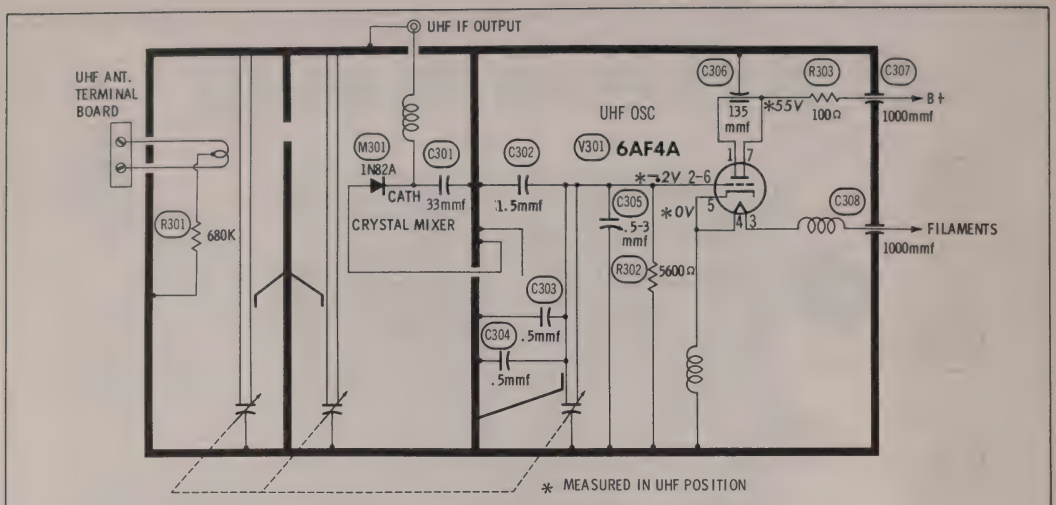
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

FM-AM RADIO PRINTED BOARD



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UHF TUNER 700688-1

TUNER PARTS LIST AND DESCRIPTIONS

700688–1

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
	◆ GENERAL ELECTRIC ◆		RAYTHEON ◆	SYLVANIA ◆	
V301	UHF Osc.	6AF4A			

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C301	33			TCZ-33	C10Q33C	CCTO-330	CNO-33	10TCC-Q33
C302	1.5		NPO-SI 1.5	TCZ-1R5	C10V15C		CNO-515	10TCC-V15
C303	.5		NPO-SI. 5	TCZ-R5				
C304	.5		NPO-SI. 5	TCZ-R5				
C305	.5-3			829-3		CV-1	CT565	
C306	135							
C307	1000		EF-001	MFT-1000		CCF-102	CT280A	
C308	1000		EF-001	MFT-1000		CCF-102	CT280A	

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R301	680K	

ITEM No.	RATING	REMARKS
R302	5600Ω	

ITEM No.	RATING	REMARKS
R303	100Ω	

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		MAGNAVOX PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M301	1N82A		1N82A	1N82A	UHF Mixer (Clip-in)

TUNER ALIGNMENT INSTRUCTIONS

700731-1, 700732-1, 700688-1

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.

VHF OSCILLATOR ALIGNMENT

Connect the negative lead of a 1.5 volt bias supply to point ⊕ . Positive to chassis.
Connect variable bias to IF AGC line. Adjust bias to obtain response curve which shows no indication of overloading.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Set the Fine Tuning to the center of its range.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 47K across Video Det. load.	A201	Adjust to place sound marker in trap notch as in Fig. 201. Video marker should fall at 50%.
			207MC	205.25MC 209.75MC	12		A202	
			201MC	199.25MC 203.75MC	11		A203	
			195MC	193.25MC 197.75MC	10		A204	
			189MC	187.25MC 191.75MC	9		A205	
			183MC	181.25MC 185.75MC	8		A206	
			177MC	175.25MC 179.75MC	7		A207	
			85MC	83.25MC 87.75MC	6		A208	
			79MC	77.25MC 81.75MC	5		A209	
			69MC	67.25MC 71.75MC	4		A210	
			63MC	61.25MC 65.75MC	3		A211	
			57MC	55.25MC 59.75MC	2		A212	

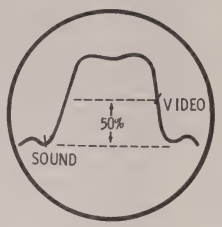


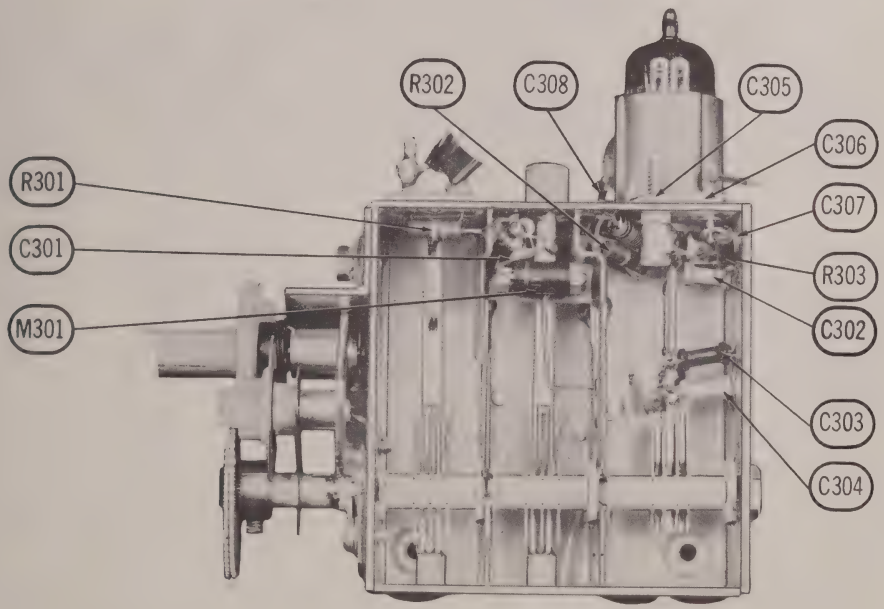
FIG 201

VHF RF AND MIXER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

UHF TUNER

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.



UHF TUNER 700688-1

MAGNAVOX CHASSIS U33-01-00 thru U33-06-00, V33-01-00 thru V33-06-00, 62-02-00, 62-02-10

FOLDER 1

TUNER PARTS LIST AND DESCRIPTIONS

700822–1 700823–1

TUBES

• GENERAL ELECTRIC • RAYTHEON • SYLVANIA •					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	6FH5	V202	Mixer-Osc.	6CG8

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	47		NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C202	47		NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C203	120 N750 10%			TCN-120	C10T12U	CCTN-121	CN7-312	10TCU-T12
C204	30	#250279-1						
C205	15 10%		NPO-DI 15	DTZ-15	C10Q15C	CCTO-150	CNO-415	10TCC-Q15
C206	15	Note 1	NPO-DI 15	DTZ-15	C10Q15C	CCTO-150	CNO-415	10TCC-Q15
C207	1000		EF-001	MFT-1000		CCF-102	CT280A	
C208	1.8-7	#250145-3		829-7				
C209	100		EF-0001	MFT-100				
C210	.5-3.5			829-3		CV-1	CT565	
C211	33		NPO-DI 33	DTZ-33	C10Q33C	CCTO-330	CNO-433	10TCC-Q33
C212	.5-3.5			829-3		CV-1	CT565	
C213	1000		DI-1000	DD-102	BYA10DI	CCD-102	GP210	10TS-D10
C214	18 N220	#250287-1				*		10TCR-Q18
C215	6.8 3.5%		NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C216	1000		DI-1000	DD-102	BYA10DI	CCD-102	GP210	10TS-D10
C217	1000		EF-001	MFT-1000		CCF-102	CT280A	
C218	1000		EF-001	MFT-1000		CCF-102	CT280A	

Note 1. A 28mmf capacitor (Part #250280-1) used in Tuner 700823. # Magnavox Part No.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R201	47K	
R202	1000Ω	
R203	4700Ω	Note 1

ITEM No.	RATING	REMARKS
R204	220K	
R205	1000Ω	
R206	4700Ω	

ITEM No.	RATING	REMARKS
R207	4700Ω	

Note 1. A 2700Ω resistor used in Tuner 700823.

COILS (RF-IF)

ITEM No.	USE	MAGNAVOX PART No.	NOTES
L201	Ant. Trans.	360813-1	
L202	RF Choke	360740-3	
L203	Trap Coil	360740-4	
L204	RF Choke	360812-1	

ITEM No.	USE	MAGNAVOX PART No.	NOTES
L205	Mixer Plate Coil	360765-2	
L206	RF Choke	360810-1	
L207	Fine Tuning Coil	360811-1	

TUNER ALIGNMENT INSTRUCTIONS
700822-1, 700823-1

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A201 thru A203 ..... GENERAL CEMENT #5000, 5003, 5014, 5015, 5016, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537
A204 thru A215 ..... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987
WALSCO #2531

RF AND MIXER ALIGNMENT

Connect the negative lead of a 4 volt bias supply to point Ⓓ . Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Turn Contrast fully clockwise.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	195MC	193.25MC 197.75MC	10	Vert. Amp. to point Ⓓ . Low side to chassis.	A201, A202, A203	Adjust A201 and A202 for maximum amplitude and symmetry with markers as shown in Fig. 201. Increase bias for MINIMUM amplitude of response curve. Without changing the bias adjust A203 to obtain MINIMUM response on the scope.
2.	"	"	213MC	211.25MC 215.75MC	13	"		Check for response curve similar to Fig. 201. If markers fall below 70% on any channel, make compromise adjustment of A201 and A202 with channel switch set to that channel. Check to see that other channels have not been seriously affected.
			207MC	205.25MC 209.75MC	12			
			201MC	199.25MC 203.75MC	11			
			195MC	193.25MC 197.75MC	10			
			189MC	187.25MC 191.75MC	9			
			183MC	181.25MC 185.75MC	8			
			177MC	175.25MC 179.75MC	7			
			85MC	83.25MC 87.75MC	6			
			79MC	77.25MC 81.75MC	5			
			69MC	67.25MC 71.75MC	4			
			63MC	61.25MC 65.75MC	3			
			57MC	55.25MC 59.75MC	2			

FIG 201

OSCILLATOR ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the Fine Tuning to the center of its range.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Connect variable bias to IF AGC line. Adjust bias to obtain response curve which shows no indication of overloading.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 10K across Video Det. load.	A204	Adjust to place sound marker in trap notch as in Fig. 202. Video marker should fall at 50%.
			207MC	205.25MC 209.75MC	12		A205	
			201MC	199.25MC 203.75MC	11		A206	
			195MC	193.25MC 197.75MC	10		A207	
			189MC	187.25MC 191.75MC	9		A208	
			183MC	181.25MC 185.75MC	8		A209	
			177MC	175.25MC 179.75MC	7		A210	
			85MC	83.25MC 87.75MC	6		A211	
			79MC	77.25MC 81.75MC	5		A212	
			69MC	67.25MC 71.75MC	4		A213	
			63MC	61.25MC 65.75MC	3		A214	
			57MC	55.25MC 59.75MC	2		A215	

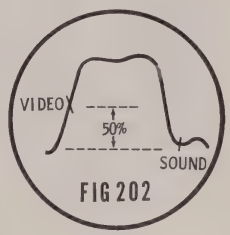
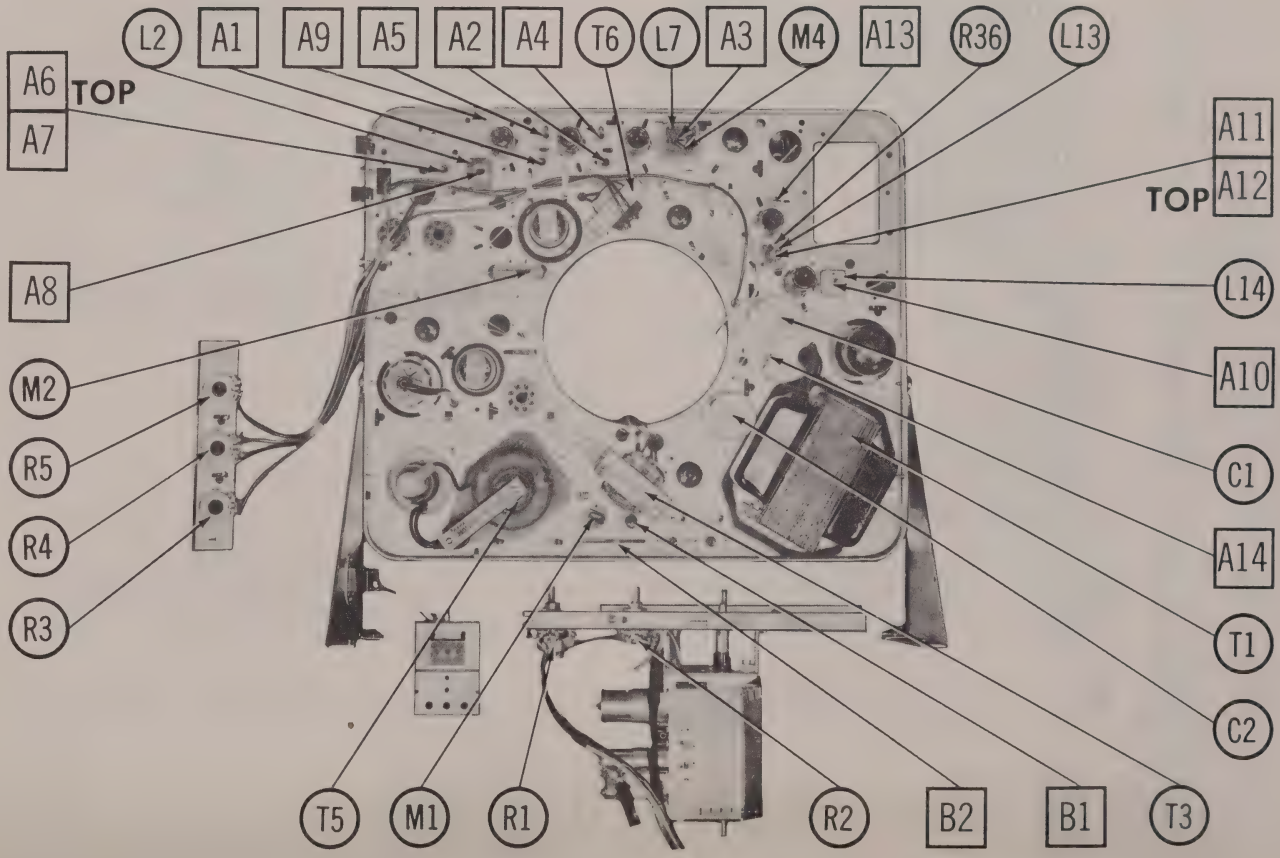


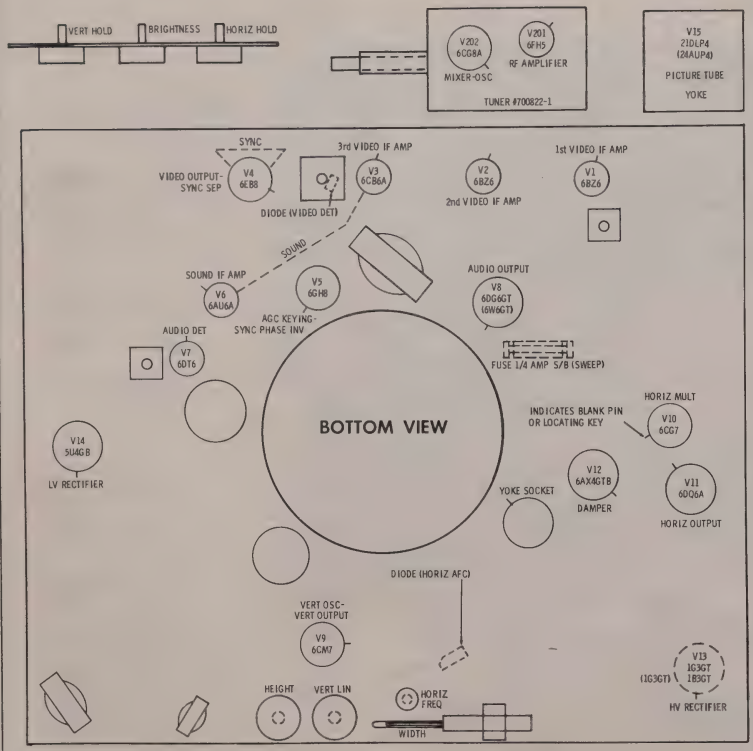
FIG 202



TV CHASSIS - TOP VIEW

TV CHASSIS BOTTOM VIEW - RESISTOR, INDUCTOR, & TRANSFORMER IDENT.

TUBE PLACEMENT CHART

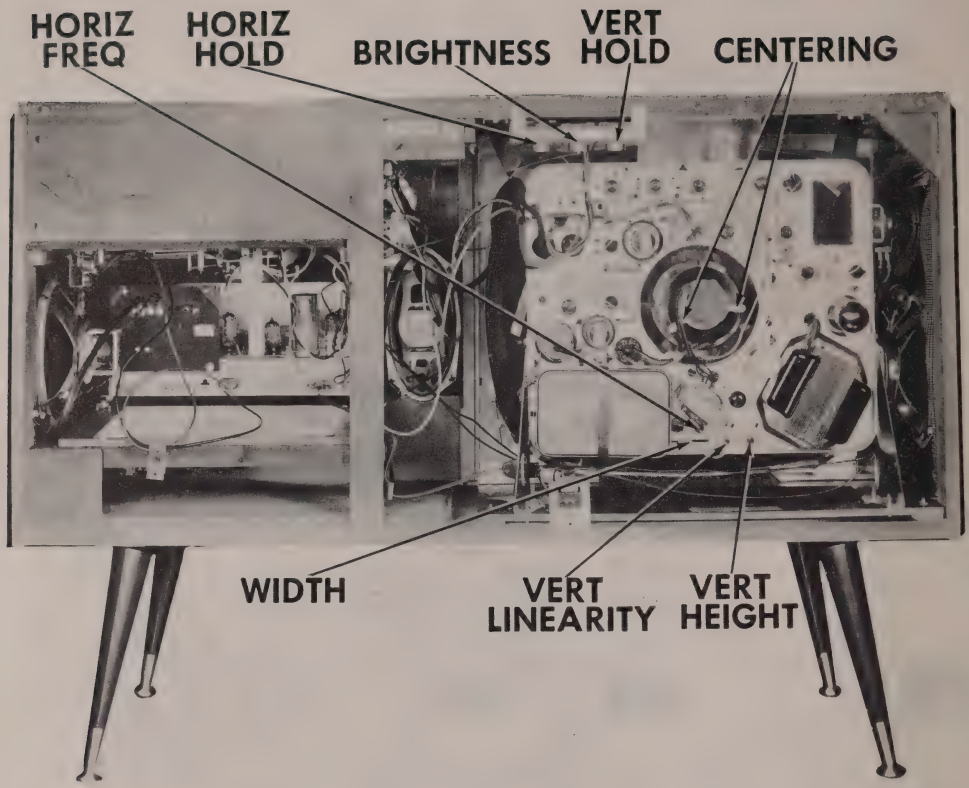


RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	560K	47Ω	.1Ω	0Ω	▪1500Ω	▪1500Ω	0Ω		
V2	6BZ6	520K	47Ω	.1Ω	0Ω	▪1500Ω	▪1500Ω	0Ω		
V3	6CB6A	0Ω	120Ω	.1Ω	0Ω	▪1500Ω	▪1500Ω	0Ω		
V4	6EB8	0Ω	4.7meg	†2.2meg	0Ω	.1Ω	●100Ω	4400Ω	▪22K	†4300Ω
V5	6GH8	†4000Ω	†37K	‡3300Ω	0Ω	.1Ω	390K	†40Ω	3300Ω	22K
V6	6AU6A	4Ω	0Ω	.1Ω	0Ω	▪1500Ω	▪1500Ω	270Ω		
V7	6DT6	3.7Ω	680Ω	.1Ω	0Ω	†270K	▪6800Ω	470K		
V8	6DG6GT	TP	0Ω	†480Ω	†3500Ω	400K	NC	.1Ω	¶	
V9	6CM7	‡5000Ω	NC	0Ω	0Ω	.1Ω	‡1.1meg	●2.3meg	●1.8meg	●1800Ω
V10	6CG7	†5700Ω	2.5meg	1500Ω	0Ω	.1Ω	†120K	●120K	1500Ω	0Ω
V11	6DQ6A	NC	.1Ω	TP	†8500Ω	470K	TP	0Ω	22Ω	TOP CAP †28Ω
V12	6AX4GTB	TP	NC	¶	NC	†42Ω	NC	0Ω	.1Ω	
V13	1G3GT 1B3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †410Ω
V14	5U4GB	NC	¶	NC	22Ω	NC	20Ω	NC	¶	
V15	21DLP4	0Ω	11K	Pin 6 0Ω	Pin 10 †3300Ω	Pin 11 ●320K	Pin 12 .1Ω			
V201	6FH5	0Ω	1.2meg	0Ω	.1Ω	▪1000Ω	0Ω	0Ω		
V202	6CG8A	4700Ω	▪4700Ω	0Ω	0Ω	.1Ω	▪1000Ω	▪0Ω	0Ω	
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
● THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
▪ MEASURED FROM PIN 8 OF V8.
† MEASURED FROM PIN 8 OF V14.
‡ MEASURED FROM PIN 3 OF V12.

NC NO CONNECTION
TP TIE POINT



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Set the Horizontal Hold Control to the center of its range. Adjust the Horizontal Frequency Slug (B1) until the picture synchronizes horizontally. Keep turning B1 in the same direction until the picture just falls out of sync. Reverse the direction of rotation until the picture just falls into sync. Rotate the Horizontal Hold Control to both extreme ends of rotation.

The picture should either stay in sync at both ends of rotation or should fall out of sync by an equal number of bars at each end. If neither of these conditions occur, repeat procedure.

Adjust the Width Slug (B2) for a picture slightly wider than necessary to fill the picture mask horizontally.

PHOTOFACT® Folder with CIRCUITRACE®

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

IMPORTANT FILING NOTICE

The TV Folder for this envelope will be found among the first folders in this complete Set of folders.

Merely insert the corresponding folder on this model in this envelope to retain proper filing and indexing order.

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

MODEL 1113 (CH. 528.50371)

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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DATE 12 – 60 SET 510 FOLDER 2

PHOTOFACT® Folder with CIRCUITRACE®

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

MODEL 1113 (CH. 528.50371)

ONE SIDE OF AC LINE CONNECTED TO CHASSIS.

Care should be exercised when connecting test equipment or physically contacting chassis. Isolation devices employed by manufacturer should be checked and properly connected before returning receiver to owner.

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

TRADE NAME	SILVERTONE	MODELS	CHASSIS
		PC-1104, PC-1112, PC-1112-7	456.50370, 456.50372, 456.50374, 456.50376
		PC-1105, PC-1113, PC-1113-7	456.50371, 456.50373, 456.50375, 456.50377
		PC-1122	456.50372, 456.50374, 456.50376
		PC-1123	456.50373, 456.50375, 456.50377
		1104, 1112, 1112-7	528.50370, 528.50372, 528.50374, 528.50376
		1105, 1113, 1113-7	528.50371, 528.50373, 528.50375, 528.50377
		1122	528.50372, 528.50374, 528.50376
		1123	528.50373, 528.50375, 528.50377
SUPPLIER	Sears, Roebuck & Co., 925 S. Homan Avenue, Chicago, Illinois		
TYPE SET	Television Receiver		
TUBES	VHF - Fourteen, UHF - Fifteen		
POWER SUPPLY	110-120 Volts AC, 60 Cycles	RATING	UHF/VHF - 140 Watts, 1.4 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL

The safety glass is an integral part of the Picture Tube (23" Models).

FUSE DEVICE

A Circuit Breaker (Automatic Power Monitor) is used for LV supply protection, and may be reset by depressing the reset button. (For location, see "Tube Placement Chart" or "Cabinet - Rear View".)

TUNER OSCILLATOR ADJUSTMENT

To touch up the VHF Oscillator, remove Channel Selector and Fine Tuning Knobs.

AGC

No provision is made to vary the AGC on this receiver.

FOCUS

The focus may be varied by connecting the lead from pin 4 of the picture tube to various voltage points. See TV Schematic.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Frequency Slug is used for the Horizontal Hold. (For location, see "Tube Placement Chart".)

WIDTH

The width may be varied by adjusting a metallic sleeve, located between the yoke and the picture tube neck, in or out of the yoke.

CENTERING

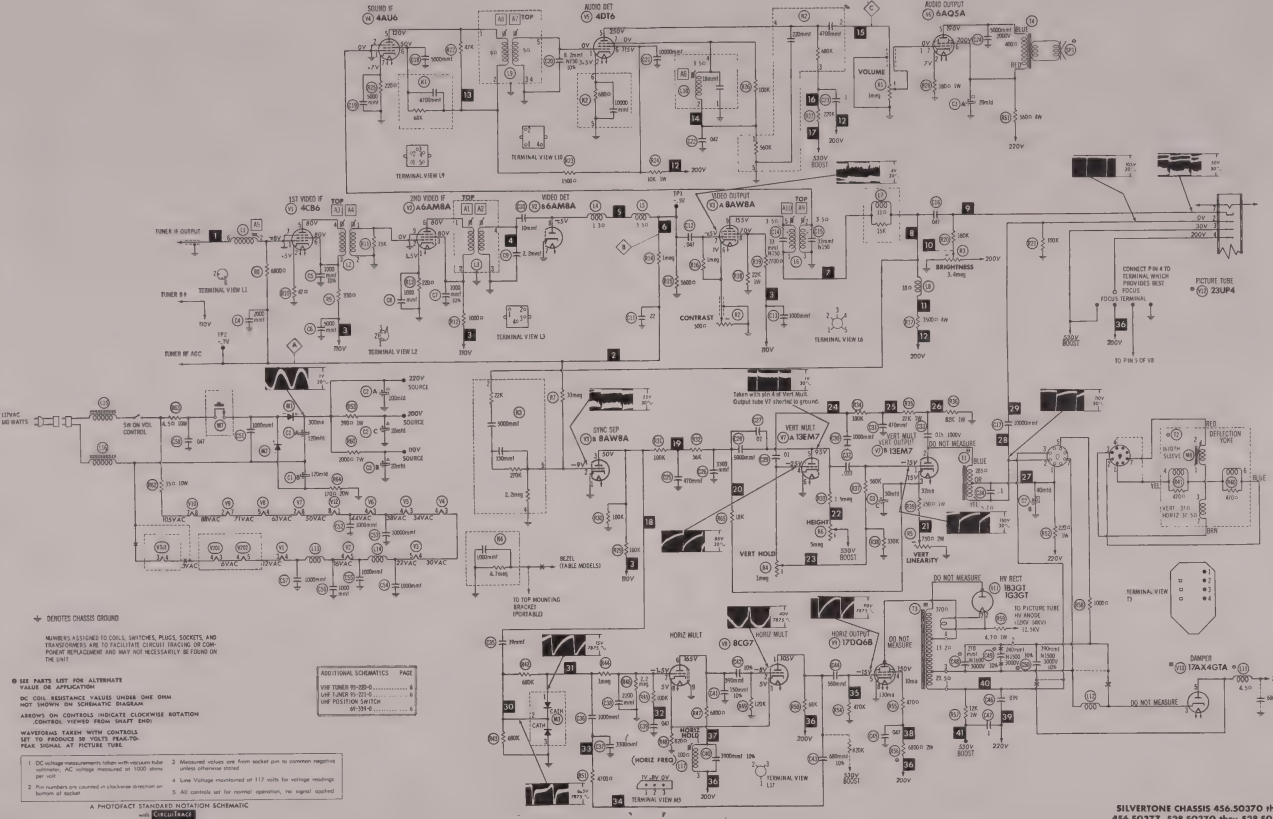
Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KA377

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

SET 510 FOLDER 2


SOUND IF V4 4AU6
AUDIO DET V5 4DT6
AUDIO OUTPUT V6 6AQ5A
1ST VIDEO IF V1 4CB6
2ND VIDEO IF V2 6AM8A
VIDEO DET V3 6AM8A
VIDEO OUTPUT V8 A 8AW8A
SYNC SEP V9 B 8AW8A
VERT MULT V7 A 13EM7
VERT OUTPUT V7 B 13EM7
HORIZ MULT 8CG7
HORIZ OUTPUT V11 17DQ6B
HV RECT 1B3GT 1G3GT
DAMPER V12 17AX4GTA
PICTURE TUBE V13 23UP4
VOLUME
CONTRAST
BRIGHTNESS
HEIGHT
VERT HOLD
VERT LINEARITY
HORIZ HOLD
HORIZ FREQ
TUNER IF OUTPUT
TUNER B+
TUNER AGC
TERMINAL VIEW L1
TERMINAL VIEW L2
TERMINAL VIEW L3
TERMINAL VIEW L4
TERMINAL VIEW L7
TERMINAL VIEW L8
TERMINAL VIEW L9
TERMINAL VIEW L17
TERMINAL VIEW M3
TERMINAL VIEW T3
TERMINAL VIEW L27
TO PICTURE TUBE HV ANODE
TO TOP MOUNTING BRACKET (MORTABLED)
BEZEL (TABLE MODELS)
DO NOT MEASURE
DENOTES CHASSIS GROUND
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION CONTROL VIEWED FROM SHAFT END
WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 38 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.
ADDITIONAL SCHEMATICS PAGE
VHF TUNER 95-220-0 6
UHF TUNER 95-221-0 6
LINE POSITION SWITCH 44-338-0 6
1 DC voltage measurements taken with vacuum tube voltmeter. AC voltage measured on 1000 ohms per volt
2 Pin numbers are counted in clockwise direction on bottom of socket
3 Measured values are from socket pin to common negative unless otherwise stated
4 Line Voltage maintained at 117 volts for voltage readings
5 All controls set for normal operation, no signal applied
A PHOTOFACT STANDARD NOTATION SCHEMATIC
with EXCLUSIVE PAGE
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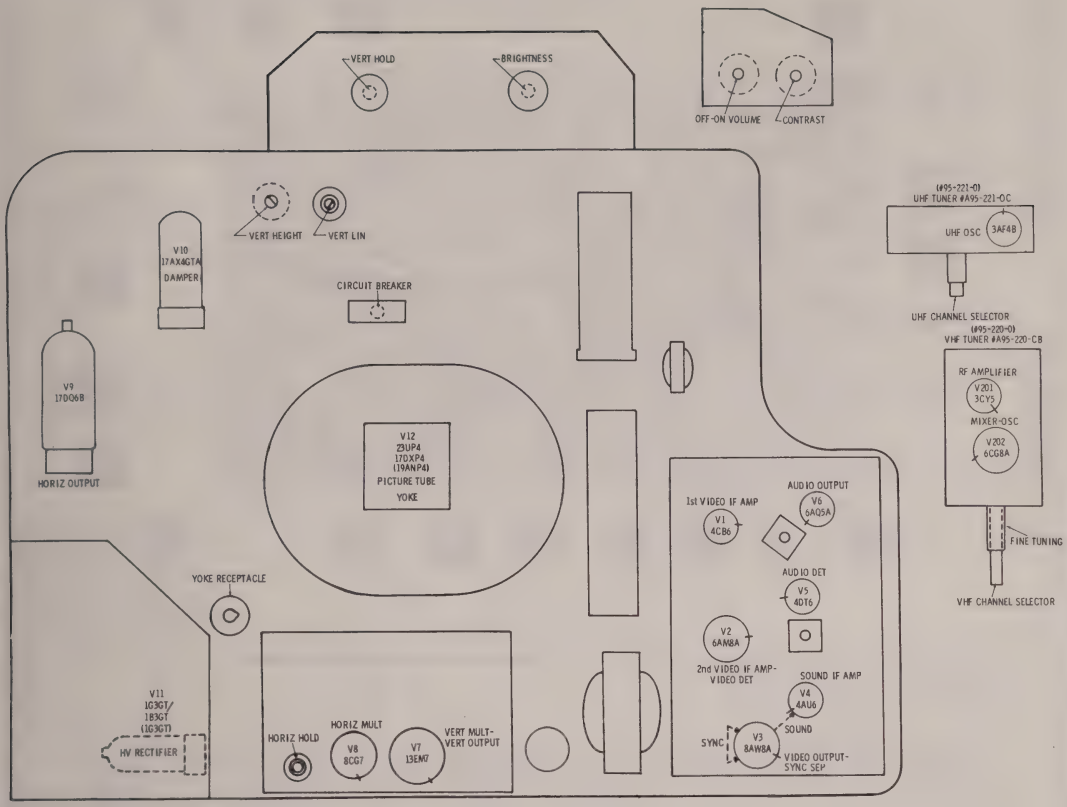
SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

TUBE PLACEMENT CHART



SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

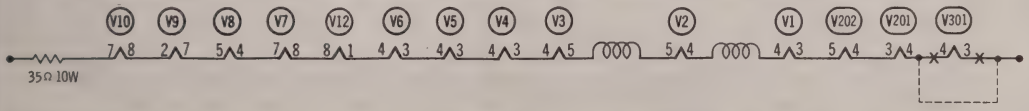
POWER SUPPLY FAILURE
No raster, no sound Circuit Breaker, Rectifiers (B+)

SWEEP FAILURE
No raster, has sound V8, V9, V10, V11, V12
No vertical deflection V7
Poor vert. linearity or foldover V7
Poor horiz. linearity or foldover V8, V9, V10
Narrow picture V8, V9, V10, (Rectifier (B+)
Vert. off freq. V7
Horiz. off freq. V8

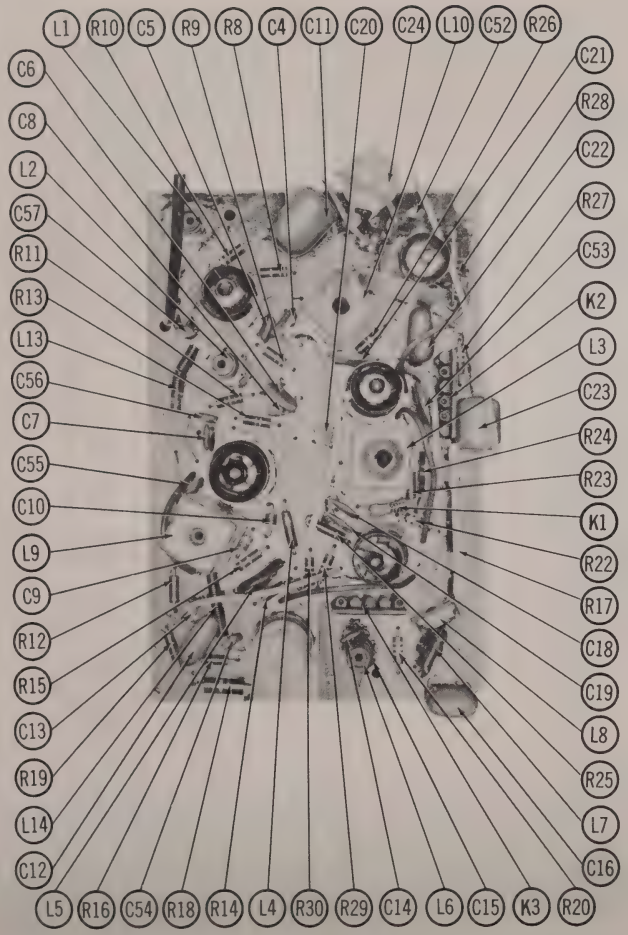
LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3
No pic, no sound, has snow V201, V202
No pic, has sound, has raster V3, V12
Has pic, no sound V4, V5, V6

SYNC FAILURE
No vert. sync V3
No horiz. sync V3,(Diodes (AFC)
No vert. or horiz. sync V3

This receiver employs tubes used in a series filament network, an open filament in any tube will cause the set to be inoperative. (See circuit below.)



FOLDER 2



A Howard W. Sams CIRCUITRACE® Photo

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

MAIN PRINTED BOARD

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.
The High Voltage lead should be securely taped and kept away from the chassis.
Suggested Alignment Tools: GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias supply to point Ⓐ. Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Short the antenna terminals together but not to chassis.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	High side thru .001mfd to pin 2 (grid) of 2nd Video IF Amp. Low side to chassis.	44.0MC (10MC Swp.)	44.0MC	Any non-interfering channel	Vert. Amp. thru 10K to point Ⓑ. Low side to chassis. (Across Video Det. load.)	A1	Preset A2 fully counterclockwise. Adjust A1 for maximum gain at 44.0MC as in Fig. 1.
2.	"	"	43.2MC 45.3MC	"	"	A2	Adjust for maximum gain and symmetry of response similar to Fig. 2 with markers as shown.
3.	High side thru .001mfd to pin 1 (grid) of 1st Video IF. Amp. Low side to chassis.	"	44.0MC	"	"	A3	Preset A4 fully counterclockwise. Adjust A3 for maximum gain at 44.0MC.
4.	"	"	43.6MC 45.0MC	"	"	A4	Adjust for maximum gain and symmetry of response similar to Fig. 3.with markers as shown. If necessary, repeat step 1 thru 4 for desired response.
5.	Place a thin insulated metal strip between the Mixer-Osc. tube and tube shield. Connect the high side of sweep generator to the metal strip. Low side to chassis.	"	44.25MC	"	"	Mixer Plate Coil	Detune A5 by turning slug out. Adjust Mixer Plate Coil for maximum gain at 44.25MC.
6.	"	"	42.75MC 43.6MC 45.0MC 45.75MC	"	"	A5	Adjust for maximum gain and symmetry of response similar to Fig. 4 with markers as shown. Retouch Mixer Plate Coil and A5 until desired response is obtained.

SOUND IF ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
7.	High side thru .05mfd to point Ⓑ. Low side to chassis. (.1V output.)	4.5MC (400∿ FM 15KC swp.)	Any non-interfering channel	AC probe to point Ⓒ. Common to chassis.	A6, A7	Adjust for maximum deflection. If two peaks are found, use the greater peak.
8.	Change output to 500 microvolts.	"	"	"	A8, A9	Adjust for maximum deflection. Retouch A7 for maximum deflection.

4.5MC TRAP ALIGNMENT

Tune in a strong TV signal and set Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible. Adjust A10 for MINIMUM beat interference.

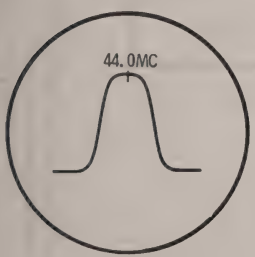


FIG.1

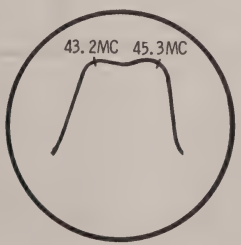


FIG.2

FIG.3

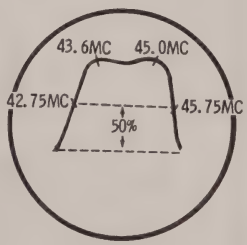
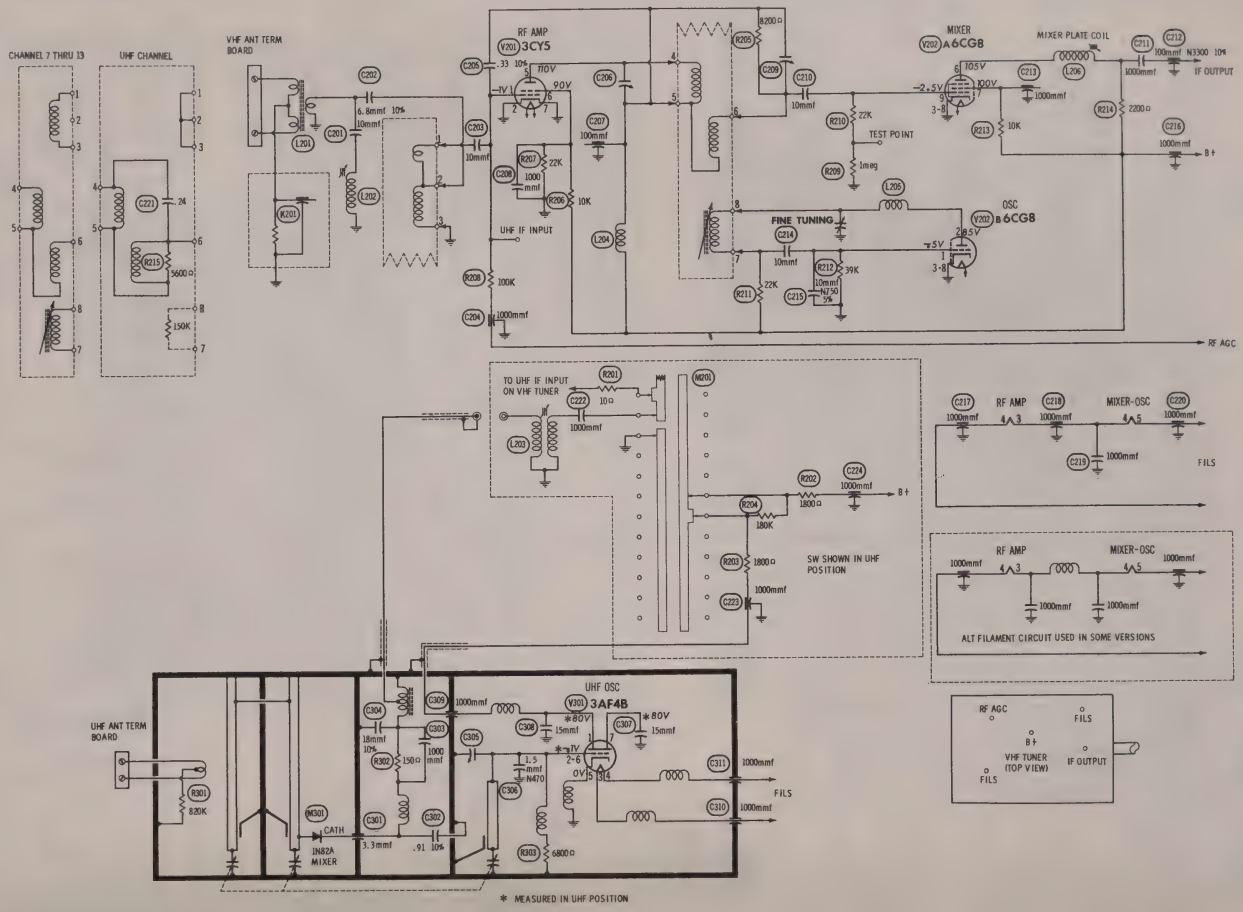


FIG.4



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VHF TUNER 95-220-0, UHF TUNER 95-221-0, UHF POSITION SWITCH 69-339-0

VHF TUNER PARTS LIST AND DESCRIPTIONS 95–220–0

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
	• GENERAL ELECTRIC •		RAYTHEON •	SYLVANIA •	
V201	RF Amp.	3CY5	V202	Mixer - Osc.	6CG8A

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C202	6.8 10%		NPO-SI 6.8	TCZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C203	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C204	1000		EF-001	MFT-1000		CCF-102	CT280A	
C205	.33 10%							
C206								
C207	100		EF-001	MFT-100				
C208	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	10TS-D10
C209								
C210	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-D10
C211	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	10TS-D10
C212	100 N3300 10%	Pt. #252-101						
C213	1000		EF-001	MFT-1000		CCF-102	CT280A	
C214	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C215	10 N750 5%		N750-DI 10	DTN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10
C216	1000		EF-001	MFT-1000		CCF-102	CT280A	
C217	1000		EF-001	MFT-1000		CCF-102	CT280A	
C218	1000		EF-001	MFT-1000		CCF-102	CT280A	
C219	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	10TS-D10
C220	1000		EF-001	MFT-1000		CCF-102	CT280A	
C221	.24 10%	Note 1						
C222	1000	Note 2	BPD-001	DD-102	BYA10D1	CCD-102	GP210	10TS-D10
C223	1000	Note 2	EF-001	MFT-1000		CCF-102	CT280A	
C224	1000	Note 2	EF-001	MFT-1000		CCF-102	CT280A	

Note 1 May not be used in some versions. Note 2 Part of M201 (UHF Position Switch)

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R201	10Ω	Note 1
R202	1800Ω	Note 1
R203	1800Ω	Note 1
R204	180K	Note 1
R205	8200Ω	

ITEM No.	RATING	REMARKS
R206	10K	
R207	22K	
R208	100K	
R209	1meg	
R210	22K	

ITEM No.	RATING	REMARKS
R211	22K	
R212	39K	(15K) *
R213	10K	
R214	2200Ω	
R215	5600Ω	(15K) *

* Alternate Value. Note 1 Part of M201 (UHF Position Switch)

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SILVERTONE PART No.	REPLACEMENT DATA
K201	Antenna Filter			

COILS (RF-IF)

ITEM No.	USE	SILVERTONE PART No.	NOTES
L201	Ant. Trans.	3292-501	
L202	Trap	2110-26	
L203	UHF IF Input	Note 1	
L204	RF Choke	2321-14	
L205	RF Choke	309-5	
L206	Mixer Plate Coil	2110-2	
L207A	Ant., RF, Osc. Coils	3262-504	Channel 2 (Red) *
B	"	3263-504	Ch. 3 (Orange) *
C	"	3264-504	Ch. 4 (Yellow) *
D	"	3265-504	Ch. 5 (Green) *

ITEM No.	USE	SILVERTONE PART No.	NOTES
L207E	Ant., RF, Osc. Coils	3266-504	Channel 6 (Blue) *
F	"	3267-504	Ch. 7 (Violet) *
G	"	3268-504	Ch. 8 (Yellow) *
H	"	3269-504	Ch. 9 (White) *
I	"	3270-504	Ch. 10 (Black) *
J	"	3271-504	Ch. 11 (Brown-Brn)*
K	"	3272-504	Ch. 12 (Red-Red)*
L	"	3273-504	Ch. 13 (Orange-Or)*
M	"	3261-509	UHF (Brown) *

* Use Color Code and Part Number when ordering replacement. Note 1 Part of M201 (UHF Position Switch)

MISCELLANEOUS

ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
M201	Switch	69-339-0	UHF Position, Includes L203, R201, R202, R203, R204, C222, C223, C224
	Stator Bar	3112-4	VHF
	Shaft	3039-530	VHF
	Shaft (Hollow)	3086-25	VHF
	Rotor Assembly	5210-514	UHF
	Crystal Clip	5204-4	UHF
	Base Assembly	5362-511	UHF

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No	USE	TYPE	ITEM No	USE	TYPE
	GENERAL ELECTRIC *	RAYTHEON *		SYLVANIA *	
V1	1st Video IF Amp.	4CB6	V6	Audio Output	6AQ5A
V2	2nd Video IF Amp. - Horiz. Multi.	6AM8A	V7	Vert. Mult. - Vert. Output	12AT7
V3	Video Output - Sync Sep.	6AW8A	V8	Horiz. Multi.	6CG7
V4	Sound IF Amp.	6AU8	V9	Horiz. Output	17DQ6B
V5	Audio Detector	6DT6	V10	Damper	17AX4GTA (5TAX4GTB) *
			V11	HV Rectifier	1G3GT/1B3GT (1G3GT) *

* Alternate

PICTURE TUBE

ITEM No	REPLACEMENT DATA					NOTES
	SILVERTONE PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
V12	21UP4		21UP4 ①		17DXP4 ②	① Aluminized ② Silver Screen "85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT	SILVERTONE PART No.	ARROVOX PART No.	CORNELL DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1A	130	150	18-118-6	PR3-090	BR1501S	TC949	TD-150-150	TVA8-2466 *	
B	130	150			BR1505		TD-150-150		
C1A	★ 30	300	18-45-3	AP3E-08-30	D0044	FP333.95	TMT-3444	TVL-4634	
B	★ 40	350							
C	★ 20	350							
C3A	★ 20	300	18-53-3	AP33-138	RG4G0	FP3G6	TMD-2295	TVL8-3781.8 *	
B	★ 30	300			33R305		TD-30-50		
C	50	50							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			ARROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	3000		RD3-302	BYA102D	CCD-302	B-325	56K-D30		
C6	1000 10%		DL-1000	DD-102	SR501	CCD-102	GP210	10TB-D10	
C7	5000 10%		BPD-006	DD-502	BYA102S	CCD-502	B-325	10TB-D50	
C7	1000 10%		DL-1000	DD-102	SR501	CCD-102	GP210	10TB-D10	
C8	1000 10%		BPD-001	DD-102	BYA102D	CCD-102	B-210	56K-D10	
C9	3.3 10%		WPO-SI 3.3	DTZ-3R3	C5V3Z5C	CCTO-3R3	C9O-332	10TCC-V32	
C10	10 10%		WPO-SI 10	DTZ-10	C5V10C	CCTO-100	C9O-433	10TCC-Q20	
C11	33 200V		P2S8N-32		CUB2F32	41DP-4-334	GEM-2032	2TM-P32	
C12	.047 400V		P4S8N-047	DD-503	CUB4S47	41DP-3-473	GEM-4147	4TM-S47	
C13	1000		BPD-001	DD-102	BYA102S	CCD-102	B-210	56K-D10	
C14	33 N150					*		10TCP-Q33	
C15	33 N150					*		10TCP-Q33	
C16	.047 400V		P4S8N-047	DD-503	CUB4S47	41DP-3-473	GEM-4147	4TM-S47	
C17	10000		BPD-01	DD-103	BYA103S	CCD-103	B-310	56K-H30	
C18	5000		BPD-005	DD-503	BYA103E	CCD-502	B-325	56K-D50	
C19	5000		BPD-005	DD-503	BYA102E	CCD-502	B-350	56K-D50	
C20	8.3 N750 10%				CUV8R3				
C21	10000		BPD-01	DD-103	BYA103E	CCD-103	B-310	56K-H30	
C23	.047 400V		P4S8N-047	DD-503	CUB4S47	41DP-3-473	GEM-4147	4TM-S47	
C24	.1 400V		P4S8N-1	DF-104	CUB4P1	41DP-4-104	GEM-401	4TM-P50	
C26	5000 2000V			DD3-502	SYC3D05	KCCD-502	2KV-347	20HE-D5	
C28	470		BPD-00047	DD-471	BYA07S47	CCD-471	B-347	10TB-T47	
C29	3300		BPD-0033	DD-332	BYA03D33	CCD-332	B-338	56K-D33	
C31	.02 400V		P4S8N-03	DD-303	CUB4S3	41DP-3-303	GEM-4143	4TM-S30	
C32	5000		BPD-005	DD-502	BYA103E	CCD-502	B-350	56K-D50	
C33	0 MAY		BPD-01	DD-108	CUB4S	41DP-1-103	GEM-4111	4TM-S10	
C36	1000		BPD-001	DD-102	BYA103E	CCD-102	B-310	56K-D10	
C37	470		BPD-00047	DD-471	BYA07S47	CCD-471	B-347	10TB-T47	
C38	.047 400V		P4S8N-047	DD-503	CUB4S47	41DP-3-473	GEM-4147	4TM-S47	
C39	39		DS-39		LQG29	CQ-039	B-239	10TB-Q39	
C39	1000		BPD-001	DD-102	BYA103E	CCD-102	B-310	56K-D10	
C40	3300		BPD-0033	DD-332	BYA103D3	CCD-332	B-338	56K-D33	
C43	2200		BPD-0022	DD-222	BYA102D3	CCD-222	B-332	56K-D22	
C44	.047 300V		P3S8N-047	DD-503	CUB3S47	41DP-3-473	GEM-4147	4TM-S47	
C46	3900	10%	1494-0039		1R5D39	CM-3DB-392K	MC7G4S.5	36S-3S9	
C47	150	10%	DS-150	DD-151	SR5T15	CCD-151	GP315	10TB-T15	
C48	390	10%	1489-00039		1R5T39	CM-15B-391K	MC7D43	36S-3S9	
C49	680	10%	1489-00068		1R5T68	CM-15B-681K	MC7D68	36S-3S6	
C50	680		DS-680	DD-681	L20T68	CCD-681	B-368	10TB-T68	
C51	.047 400V		P4S8N-047	DD-503	CUB4S47	41DP-3-473	GEM-4147	4TM-S47	
C52	.047 600V		P6S4C8-039	DD-503	DF5E539	41DP-3-393	GEM-414	6PE-S39	
C47	.1 400V		P4S8N-1	DF-104	CUB4P1	41DP-3-104	GEM-401	4TM-P50	
C54	3000 V 6500 10%	Note 1							
C49	240 3000 V 16500 10%	Note 2							
C50	390 3000 V 16500 10%	Note 1							
C51	1000		BPD-001	DD-102	BYA102D	CCD-102	B-210	56K-D10	
C52	5000		BPD-005	DD-502	BYA102S	CCD-502	B-325	56K-D50	
C53	10000		BPD-01	DD-103	BYA103E	CCD-103	B-310	56K-H30	
C54	1000		BPD-001	DD-102	BYA102E	CCD-102	B-210	56K-D10	
C55	1000		BPD-001	DD-102	BYA103D	CCD-102	B-210	56K-D10	
C56	5000		BPD-005	DD-502	BYA103S	CCD-502	B-325	56K-D50	
C57	1000		BPD-001	DD-102	BYA102D	CCD-102	B-210	56K-D10	
C58	.047 400V		P4S8N-047	DD-503	CUB4S47	41DP-3-473	GEM-4147	4TM-S47	

CONTROLS

ITEM No	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	SILVERTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	long	1	34-438	A2B-70	A47-long-2	B13-137	U33	Volume
B	Shaft			A2C-8	R8B-3/16	843	DB-37	
C	Switch			EH-1	SWE-12	T6-1	U8-26	Power Off-On

CONTROLS (cont)

ITEM No	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	SILVERTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R2A	500Ω	1	24-439	A2-6	A47-500-8	B11-103	U3	Contrast
B	Shaft			A2C-8	R8-3/16	843	DB-37	
R3A	3 Meg	1	24-420	F1-79		⑤ U-1513	FA8SL	Brightness
B	Shaft			Not Req.			GQ8SL	
R4A	long	1	24-460	F1-51		⑤ U-1514	FA8SL	Vert. Hold
B	Shaft			Not Req.			GB8SL	
R5	750Ω	2(WW)	34-441	WN-751	39-B00	B13-500	FL-750	Vert. Linearity
R6	1meg	1	24-427	TT-67	B47-1meg-S	B13-25	GQ8SL	Height

† "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements and Shafts: B11-160, P53-012 (Panel) (Not available as a factory assembled unit). #5 (Bushing)

† "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements and Shafts: B11-137, P53-012 (Panel) (Not available as a factory assembled unit). #8 (Bushing)

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R7	33meg		R28	150Ω 1W		R50	68K	
R8	680Ω		R29	100K		R51	4700Ω	
R9	330Ω		R30	100K		R53	2300 1W	
R10	47Ω		R31	100K		R53	3900 1W	
R11	18K		R33	96K		R54	470K	
R12	100Ω		R33	1.5meg		R55	470Ω	
R13	220Ω		R34	100K		R56	6800Ω 2W	Note 1
R14	1meg		R35	27K 1W		R57	12K 1W	
R15	5600Ω		R36	82K 1W		R58	1000Ω	
R16	1meg		R37	560K		R59	4.7Ω 1W	
R17	35000 4W	Pt. #61-173-0 (IRC #PW5-35000)	R38	330K		R60	2000Ω 7W	Pt. #61-189-0 (IRC #PW10-2000)
			R39	150Ω 1W		R61	880Ω 4W	Pt. #61-190-0 (IRC #PW5-880)
R18	22K 1W		R40	470Ω				
R19	2700Ω		R41	470Ω		R62	35Ω 10W	Pt. #61-193-0 (IRC #PW20-35)
R20	180K		R43	880K				
R21	100K		R43	680K		R63	4.5Ω 10W	Pt. #61-191-0
R23	47K		R44	1meg		R64	170Ω 10W	Pt. #61-192-0 (IRC #PW20-170)
R23	1500Ω		R45	100K				
R24	1M 1W		R46	2.2meg		R65	18K	
R25	220Ω		R47	6800Ω				
R26	100K		R48	820Ω				
R27	220K		R49	120K				

Note 1. Value may vary. Replace with original value.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	REPLACEMENT DATA SILVERTONE PART No.
K1	Sound IF Grid	4700mmf, 88K	13-2-3
K2	Audio Coupling	220mmf, 4700mmf, 10000mmf, 88Ω, 680K, 500K	13-23-5
K3	Sync Sep. Grid	150mmf, 5000mmf, 22K, 270K, 3.3meg	13-6-5
K4	Isolation	1000Ω, .4, 7meg	13-17-3

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		SILVERTONE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	1st Video IF	10-26-3	TV-131	6236	RTC-8636	▲ Parallel with 15K Resistor.
L2	2nd Video IF	10-27-3				① 15K ohmshed into form.
L3	3rd Video IF	10-119-2				② Not used in chassis 456.50376, 377, 528.50376, 377.
L4	IF Choke (12uh)	10-45-1	BC-566	6523	RTC-8573 ▲	
L5	Peaking (90uh)	10-146-1	TV-193	6130	RTC-8572	
L6A	4.5MC Trap	10-135-1				
B	1st Sound IF	10-130-1 ①	TV-198 ▲	6130 ▲	RTC-8576 ▲	
L7	Peaking (390uh)	10-147-1	TV-196	6130	RTC-8576 ▲	
L8	2nd Sound IF	10-131-1				
L9	Quadrature	10-27-5				
L10	RF Choke (80uh)	10-54-1 ②	TV-193	6130	RTC-8573	
L12	RF Choke (3uh)	10-159-1	BC-543	4606	RTC-8517	
L13	Fil. Choke (1uh)	10-158-1	BC-561	4603	RTC-8515	
L14	Fil. Choke (1uh)	10-158-1	BC-156	4603	RTC-8515	
L15	Line Choke (40uh)	10-149-1	TV-180	8716	RTC-8593	
L16	Line Choke (40uh)	10-149-1	TV-180	8716	RTC-8593	

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		SILVERTONE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L17	Horiz. Stabilizer (Horiz. Hold)	10-34-5	TV-164	6311 *	RC130 *	RTC-8633*	HS-16	WLC-25 *

* Fabricate mounting.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No	USE	REPLACEMENT DATA						NOTES
		SILVERTONE PART No.	Merit PART No.	Rogers PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	Vert. Output	20S-8-2A	A-3521 ①		A-3147 ②	26S15	A-13X	
T2	Alt. Vert. Output	20-S-2		PCM-1534 ② ③		Y-53 ①	Y-53 & HV20	
	Yoke Horiz. (20MIS) (110°) Vert. (24MIS)	20S-13-4A ④						
	Alt. Yoke	80-13-4 ⑤						
	Yoke	80-11-4 ⑤						
	Yoke	80-16-4 ⑤						
	Rear Cover and Centering Device	21-404-0						

TRANSFORMERS (SWEEP CIRCUITS) cont)

ITEM No	USE	REPLACEMENT DATA						NOTES
		SILVERTONE PART No.	Merit PART No.	Rogers PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	Rear Cover and Centering Device	21-590-0						
	Width Service	83-1255						
T3	Horiz. Output	D80-14-3C						
	Alt. Horiz. Output	80-14-3						

① Drill new mounting hole(s).
② Use original rear cover and centering device; yoke damping network if necessary.
③ Use original yoke plug; connect yoke terminal #5 to plug pin #7; yoke #3 & #7 to plug pin #6; yoke #4 to plug pin #3.

④ Used with 23" Picture Tube.
⑤ Used with 17" Picture Tube.
⑥ Used with 19" Picture Tube.
* Cut and tape blanking lead.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	SILVERTONE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T4	5000Ω	3-4Ω	80-138-1	A-3026	A-3071	26S68	S-52	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA					NOTES
		SILVERTONE PART No.	QUAM PART No.				
	SIZE	FIELD	V. C. IMP.				
SP1	3" x 5" PM 4"	3-60		33-379-4 † 33-428-4 *	25A05	†Models PC1054, 05, 13, 2-7, 13, 18-7, 1104, 05, 13, 13-7, 18, 13-7	
						*Models PC1123, 33, 1123, 23	

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA					NOTES
	CURRENT (Measured)	SILVERTONE PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	
M0	.300A			1N1763 *	40S *	20S00 *	* Silicon Type
M2	.300A	86-1-3 *		1N1763 *	40S *	SR500 *	* Dual Selenium Diode (Common Cathode Type)
M3		*	60C1 *				

MISCELLANEOUS

ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
M4	Tuner	95-220-0	VHF, STANDARD COIL REPLACEMENT Type #OG8-122-A
M5	Tuner	95-232-0	UHF
M6	Switch	60-339-0	VHF-UHF (UHF-VHF Chassis Only)
M7	Circuit Breaker	83-13-2	(Automatic Power Monitor)
M8	Width Device	83-1255	
	Printed Board	84-1048	IF, Sync & Sound Circuit Board Assembly (Less Tubes)
	Printed Board	84-11643-1	Vertical-Horizontal Oscillator Circuit Board Assembly (Less Tubes) Ch. 456/528.50370, 375, 376, 378
	Printed Board	84-11643-2	Vertical-Horizontal Oscillator Circuit Board Assembly (Less Tubes) Ch. 456/528.50379, 377

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO	DESCRIPTION
Glass	48-129-0	Safety Window, Models 1104, PC1104, 1105, PC1105
Glass	48-152-0	Safety Window, Models 1132, PC1132, 1133, PC1133
Knob	52-1433-0	VHF Channel Selector, Models 1104, PC1104, 1105, PC1105
Knob	52-1457-0	VHF Channel Selector, Models 1123, PC1123, 1132, PC1132
Knob	52-1458-0	VHF Channel Selector, Models 1133, PC1133, 1113-7, PC1113-7
Knob	52-1412-0	UHF Fine Tuning, Models 1105, PC1105
Knob	52-1413-0	UHF Fine Tuning, Models 1123, PC1123, 1133, PC1133, 1113-7, PC1113-7
Knob	52-924-0	UHF Indicator, Models 1123, PC1123
Knob	52-924	UHF Indicator, Models 1113, 1113-7, PC1113, PC1113-7
Knob	52-1404-0	UHF Indicator, Models 1105, PC1105
Knob	52-1414-0	Fine Tuning, Models 1104, PC1104, 1105, PC1105
Knob	52-1481-0	Fine Tuning, Models 1123, PC1123, 1133, PC1133
Knob	52-1442-0	Fine Tuning, Models 1113, PC1113, 1113-7, PC1113-7
Knob	52-1458-0	Contrast, Volume, Models 1104, PC1104, 1105, PC1105, 1123, PC1123, 1133, PC1133
Knob	52-1451-0	Contrast, Volume, Models 1113, PC1113, 1113-7, PC1113-7, 1113, PC1113-7
Knob	52-1411-0	Brightness, Vertical Hold, Models 1104, PC1104, 1105, PC1105
Knob	52-1448-0	Brightness, Vertical Hold, Models 1123, PC1123, 1133, PC1133
Knob	52-1429-0	Brightness, Vertical Hold, Models 1113, PC1113, 1113-7, PC1113-7, 1113, PC1113-7,
Handle	48-633	Models 1104, PC1104, 1105, PC1105, PC1113-7
Handle	48-728	Models 1123, 1133, PC1133, PC1132
Cabinet	42-230-0	Teakwood, Metal, Models 1123, PC1123
Cabinet	42-231-0	Teakwood, Metal, Models 1133, PC1133
Cabinet	42-190-0	Mahogany, Models 1113, PC1113, 1113-7, PC1113-7
Cabinet	42-232-0	Oak, Models 1113-7, PC1113-7, 1113-7, PC1113-7

WIRING DATA

High Voltage Lead	Use BELDEN No. 8889
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8534 (Stranded) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8404 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

SILVERTONE CHASSIS 456.50370 thru 456.50377, 528.50370 thru 528.50377

FOLDER 2

UHF TUNER PARTS LIST AND DESCRIPTIONS 95–221–0

TUBES

• GENERAL ELECTRIC •			• RAYTHEON •			• SYLVANIA •		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V301	Osc.	3AF4B						

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C301	3.3	Pt. #5219-502						
C302	.91 10%	Pt. #2101-918						
C303	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	10TS-D10
C304	18 10%		DI-18	DD-180	L10QL8	CCD-180	GP418	10TS-Q18
C305		Pt. #1620-9						
C306	1.5 N470	Pt. #5258-503						
C307	15		DI-15	DD-150	L10QL5	CCD-150	GP415	10TS-Q15
C308	15		DI-15	DD-150	L10QL5	CCD-150	GP415	10TS-Q15
C309	1000		EF-001	MFT-1000		CCF-102	CT280A	
C310	1000		EF-001	MFT-1000		CCF-102	CT280A	
C311	1000		EF-001	MFT-1000		CCF-102	CT280A	

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R301	820K	

ITEM No.	RATING	REMARKS
R302	150Ω	

ITEM No.	RATING	REMARKS
R303	6800Ω	

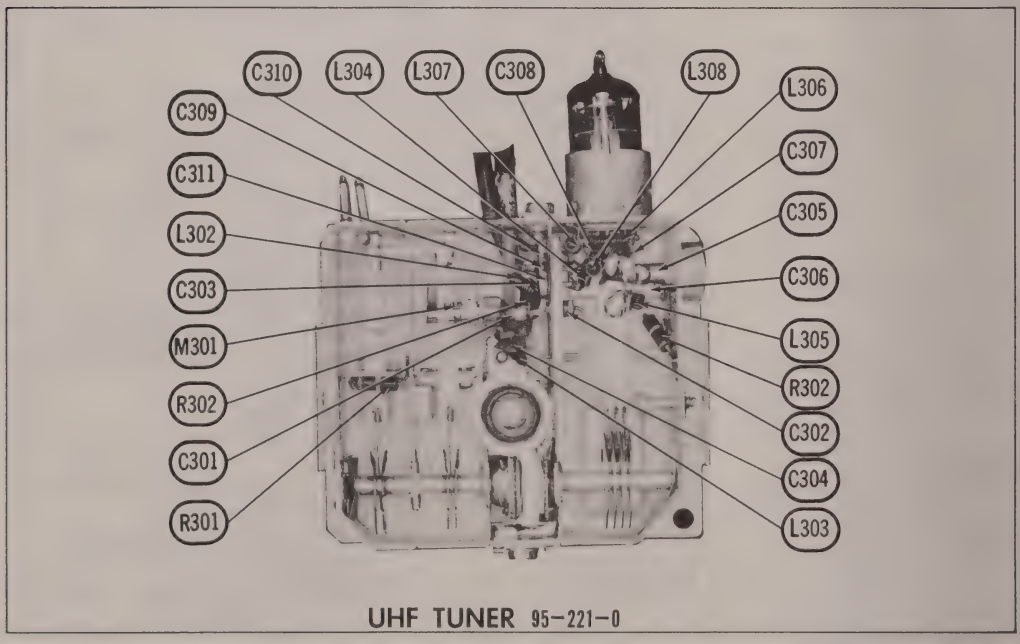
COILS (RF-IF)

ITEM No.	USE	SILVERTONE PART No.	NOTES
L301	Ant. Coils	5421-1	
L302	RF Choke	1785-13	
L303	UHF IF Output	2686-1	
L304	RF Choke	1785-13	

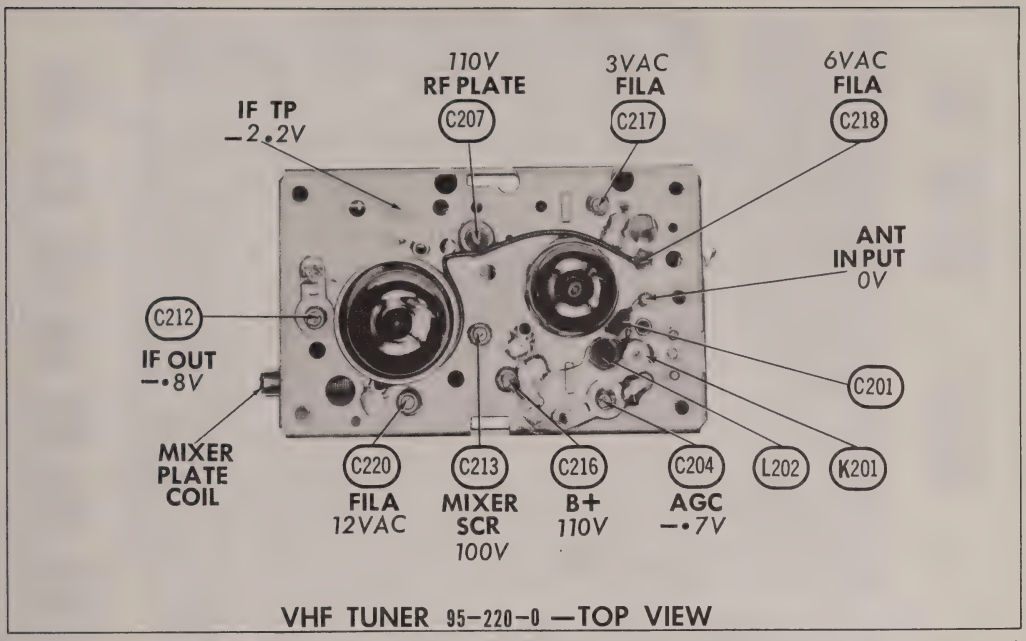
ITEM No.	USE	SILVERTONE PART No.	NOTES
L305	Osc. Coil	1785-9	
L306	RF Choke	1911-12	
L307	Fil. Choke	1785-70	
L308	Fil. Choke	1785-70	

CRYSTAL DIODES

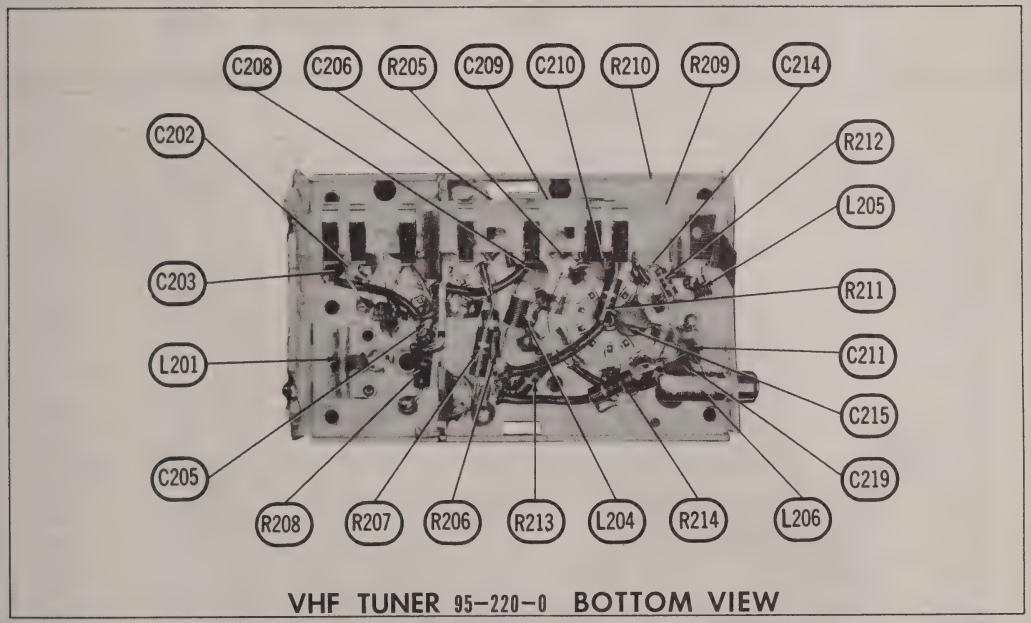
ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		SILVERTONE PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M301	1N82A	1N82A	1N82A	1N82A	



UHF TUNER 95–221–0



VHF TUNER 95-220-0 —TOP VIEW



VHF TUNER 95-220-0 BOTTOM VIEW

TUNER ALIGNMENT INSTRUCTIONS

VHF OSCILLATOR ALIGNMENT

The individual channel adjustment screws are accessible one at a time, thru a hole in the front of the tuner, as the channel selector is rotated. Set the Fine Tuning to the center of its range and switch to channel to be adjusted and adjust for best picture and sound.

VHF RF AND MIXER ALIGNMENT

This portion of the tuner has been properly aligned at the factory and is very stable. Alignment of this portion should not be attempted in the field.

UHF TUNER ALIGNMENT

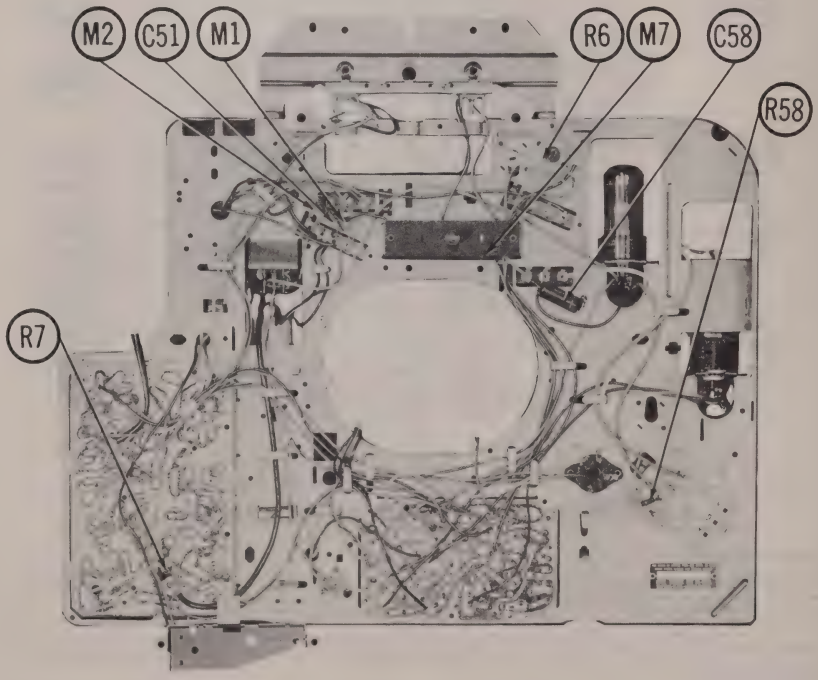
This portion of the tuner has been properly aligned at the factory and is very stable. Alignment of this portion should not be attempted in the field.

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	4CB6	1meg	47Ω	20Ω	30Ω	†2300Ω	†2300Ω	0Ω		
V2	6AM8A	220Ω	.3Ω	†3000Ω	30Ω	40Ω	†3000Ω	0Ω	5600Ω	0Ω
V3	8AW8A	0Ω	2.2meg	†70K	55Ω	40Ω	•50Ω	1meg	†4700Ω	†4000Ω
V4	4AU6	3.5Ω	0Ω	55Ω	65Ω	†12K	†80K	220Ω		
V5	4DT6	5Ω	680Ω	65Ω	70Ω	†910K	†12K	560K		
V6	6AQ5A	NC	180Ω	70Ω	85Ω	†960Ω	†560Ω	0Ω		
V7	13EM7	1meg	†500Ω	•650Ω	•650K	• †4meg	0Ω	115Ω	90Ω	
V8	8CG7	†68K	120K	820Ω	115Ω	130Ω	†7200Ω	1.2meg	820Ω	0Ω
V9	17DQ6B	NC	155Ω	TP	†7600Ω	470K	NC	130Ω	0Ω	TOP CAP †14Ω
V10	17AX4GTA	TP	NC	¶	NC	†4.5Ω	TP	180Ω	155Ω	
V11	1G3GT 1B3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †385Ω
V12	Z3UP4	85Ω	100K	†12K	†390Ω	NC	NC	•200K	90Ω	
V201	3CY5	1.1meg	0Ω	10Ω	5Ω	†2000Ω	†12K	0Ω		
V202	6CG8A	39K	†24K	0Ω	10Ω	20Ω	†4200Ω	†12K	0Ω	1meg
V301	3AF4B	†5600Ω *	6800Ω	0Ω	5Ω	0Ω	6800Ω	†5600Ω *		
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
• THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
† MEASURED FROM OUTPUT OF M1.
‡ MEASURED FROM PIN 3 OF V10.
* UHF POSITION.

NO NO CONNECTION
TP TIE POINT

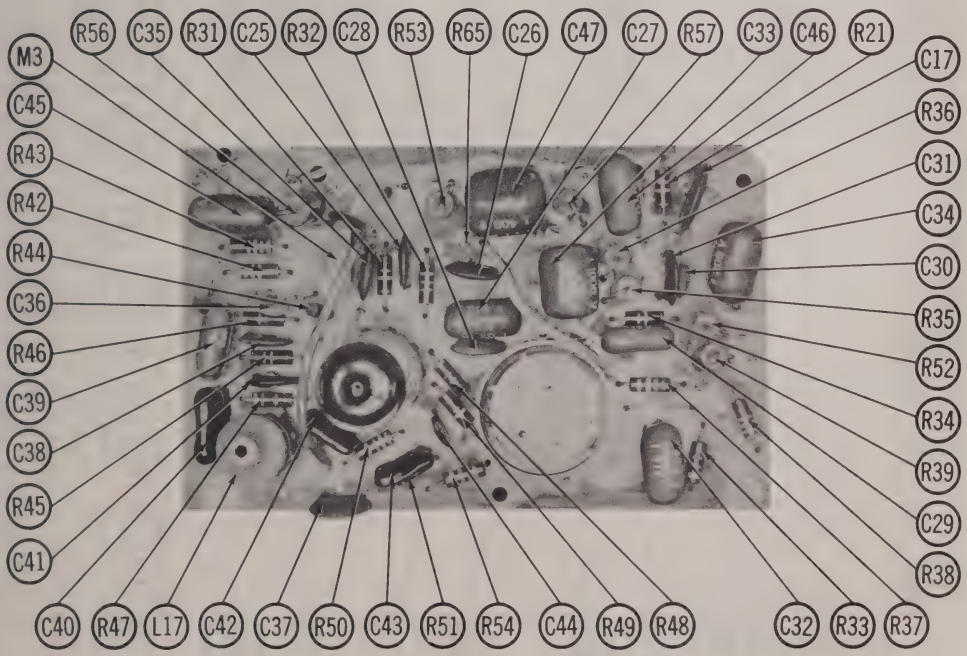


CHASSIS—REAR VIEW

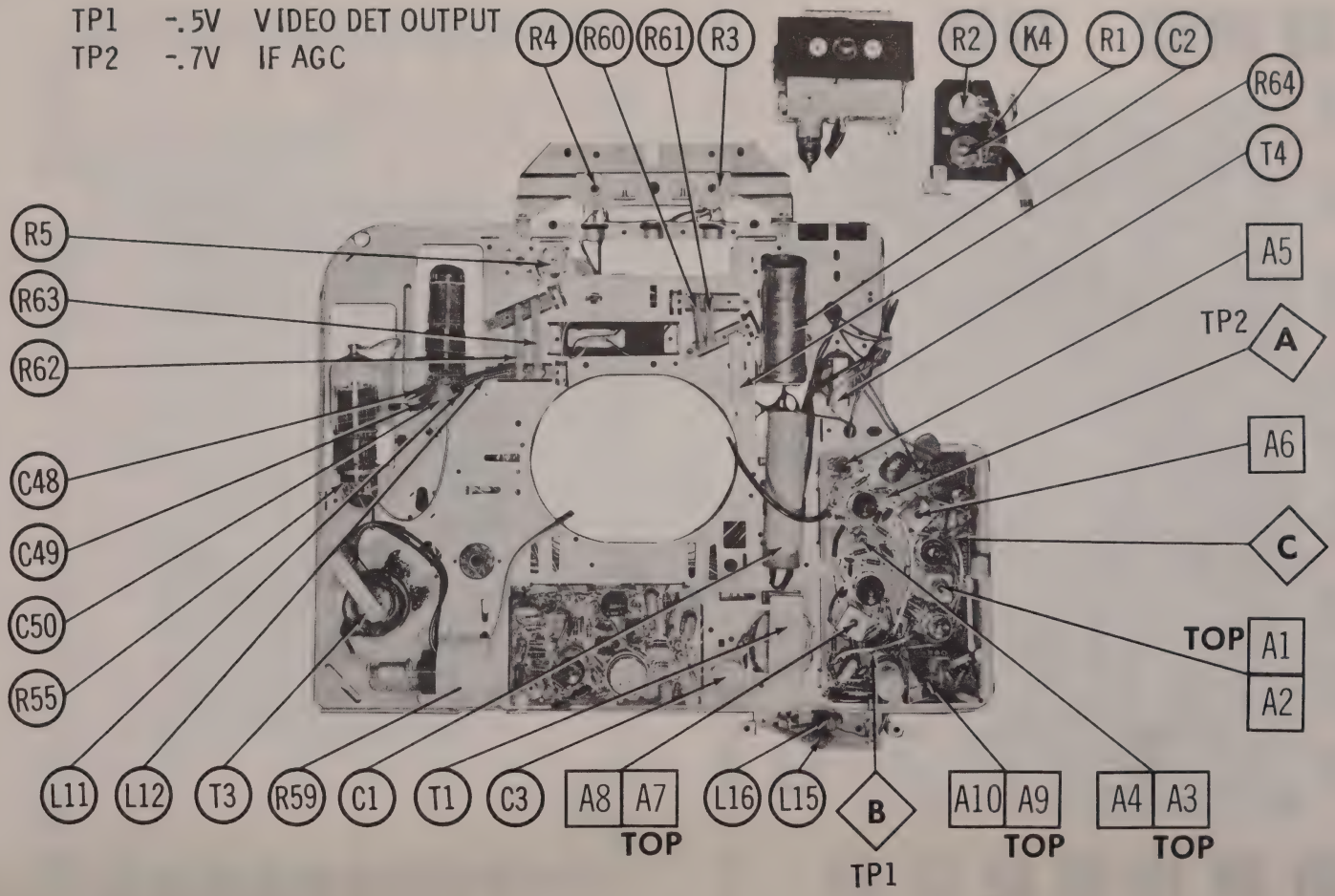
A Howard W. Sams CIRCUITRACE® Photo

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

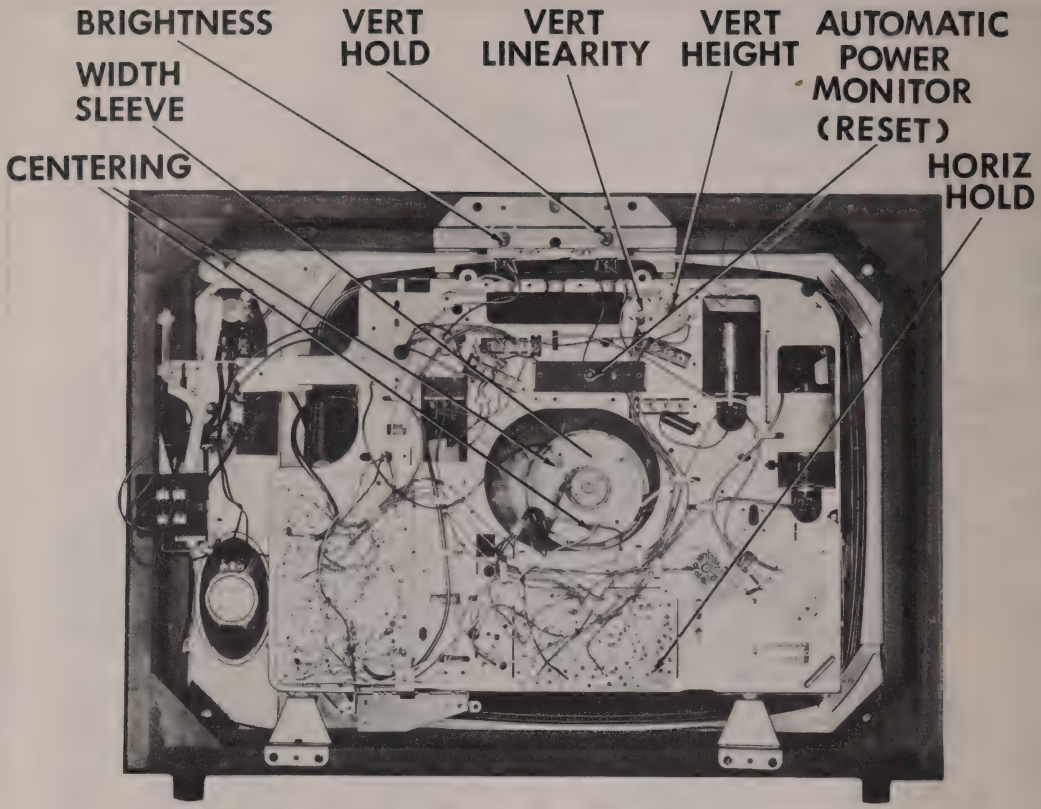
SWEEP PRINTED BOARD



SWEEP PRINTED BOARD



CHASSIS - FRONT VIEW



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

Set the Brightness and Contrast Controls for a normal picture.

Turn the Horizontal Hold clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.

Turn the Horizontal Hold slowly counterclockwise until the picture just falls into sync.

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL MODEL 1113

NOTE: Chassis may be serviced by removing rear cover, 2 wood screws at top of cabinet, and 2 wood screws at bottom (right) of cabinet. Chassis will now swing out.

1. Remove 10 wood screws holding rear cover.
2. Remove rear cover.
3. Remove 4 wood screws at bottom of cabinet, 2 at top, and 2 at side (holding chassis to cabinet).
4. Remove yoke plug, picture tube socket, hi voltage lead, speaker leads.
5. Remove 2 screws at rear of cabinet and 1 at front holding VHF Tuner mounting bracket.
6. Remove 2 push-on type (UHF) knobs at side of cabinet and 4 push-on type knobs at front of cabinet.
7. Remove 2 screws now visible at side of cabinet holding UHF Tuner.
8. Remove chassis.

PICTURE TUBE REMOVAL

It is necessary to remove chassis for picture tube removal.

PHOTOFACT® Folder

**PRODUCTION CHANGE
BULLETIN 249**

MOTOROLA MODELS Y23K1MA, WA, Y23K2B, M, Y23K3CW, 21C11B, M, 21K138M, 21K139B, M, W, 21K140B, M, 21K141CW, 23K1MA, 23K2B, M, 23K3CW (Ch. TS-564, Y)

SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 1 IN SET 481

Motorola Models A21C11B, M, A21K138M, A21K139B, M, W, A21K140B, M, A21K141CW, Y21C10CW, Y21K125B, M, Y21K126B, M, W, Y21K127CW, Y21K129B, M, MC, Y21K130CW, Y21T67BG, MG, Y21T68B, M, W, 21C10CW, 21K125B, M, 21K126B, M, W, 21K127CW, 21K129B, M, MC, 21K130CW, 21T67BG, MG, 21T68B, M, W (Ch. TS-564, Y, WTS-564) were covered in PHOTOFACT Folder 1 - Set 481.

Models Y23K1MA, WA, Y23K2B, M, Y23K3CW, 21C11B, M, 21K138M, 21K139B, M, W, 21K140B, M, 21K141CW, 23K1MA, WA, 23K2B, M, 23K3CW (Ch. TS-564, Y) are added along with late production changes with the publication of this bulletin.

Chassis Coding A-12

DESIGN CHANGE

C19 is increased from 470mmf to 1000mmf.

Chassis Coding A-13

TO ELIMINATE THE POSSIBILITY OF VERTICAL FLUTTER

C1A is increased from 40mfd @ 350 volts to 80mfd @ 350 volts (Part #23K754011).

Chassis Coding A-14

DESIGN CHANGE

The horizontal sweep module (K6) is changed to Part #51K753504.

Chassis Coding A-15

DESIGN CHANGE

The horizontal sweep module (K6) is changed to Part #51K753806.

(CONTINUED ON THE REVERSE SIDE)

ARVIN MODEL 9574 (CH. 1.43001, 1.43002)

SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 6 IN SET 377

Arvin Model 9574P (Ch. 1.43000) was covered in PHOTOFACT Folder 6 - Set 377.

Model 9574 (Ch. 1.43001, 1.43002) which is electrically similar except for the following changes is added with the publication of this bulletin.

COMPONENT CHANGES

C1 is changed to Part #44396-4.

C3A, B is changed to Part #45719-1.

C4 is changed to Part #44396-5.

C8 is increased from 9mmf to 12mmf.

C12 is increased from 9mmf to 12mmf.

T1 (Output Transformer) is changed to Part #44671-2.

X5, X6 are changed to either a Type 2N321 or a Type 2N270.

The White Cabinet is changed to Part #45459-67.

The Tan Cabinet is changed to Part #45449-118.

Ch. 1.43002

COMPONENT CHANGE

L2 (Oscillator Coil) is changed to Part #45783-6.

PRODUCTION CHANGE
BULLETIN 249

PRODUCTION CHANGE
BULLETIN 249

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	61C747252	Models 21C11B, M, 21K138M, 21K139B, M, W, 21K140B, M, 21K141CW
Mask, Picture Tube	13F751413	Models 21C11B, M
Mask, Picture Tube	13K751507	Models 21K138M, 21K139B, M, W, 21K140B, M, 21K141CW
Mask, Picture Tube	13F752313	Models Y23K1MA, WA, Y23K2B, M, Y23K3CW, 23K1MA, WA, 23K2B, M, 23K3CW
Knob	1B751718	VHF Channel Selector
Knob	1V751913	Fine Tuning (Front)
Knob	36K751696	Fine Tuning (Rear)
Knob	1B751730	Fine Tuning (UHF Models)
Knob	1V751924	Off-On Volume
Knob	36B751755	Brightness, Vertical Hold
Knob	36K751697	Contrast
Knob	36K746089	Horizontal Hold
Knob	36B752588	Tone, Models 21C11B, M
Knob	1V752229	Tone
Cabinet	16K752218	Model 21C11B
Cabinet	16E752217	Model 21C11M
Cabinet	16E752400	Model 21K138M
Cabinet	16K752118	Model 21K139B
Cabinet	16E752116	Model 21K139M
Cabinet	16K752117	Model 21K139W
Cabinet	16K752487	Model 21K140B
Cabinet	16E752486	Model 21K140M
Cabinet	16E751667	Model 21K141CW
Cabinet	16E65205A01	Models Y23K1MA, 23K1MA
Cabinet	16E65205A02	Models Y23K1WA, 23K1WA
Cabinet	16E65005A02	Models Y23K2B, 23K2B
Cabinet	16E65005A01	Models Y23K2M, 23K2M
Cabinet	16E65028A02	Models Y23K3CW, 23K3CW

SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 3 IN SET 400

HOFFMAN MODELS B3581, B3601, C3581, K3581, M3581, M3601, SP3581, SP3601, W3581, W3601 (CH. 345, 346)

Hoffman Models B1261, U, B3331, U, B3341, U, B3374, U, K3341, U, M1261, U, M3331, U, M3341, U, M3374, U, P1261, U, P3374, U, SP3331, U, SP3341, U (Ch. 334, U) were covered in PHOTOFACT Folder 3 - Set 400.

Models B3581, B3601, C3581, K3581, M3581, M3601, SP3581, SP3601, W3581, W3601 (Ch. 345, 346) which are electrically identical except for the following changes are added with the publication of this bulletin.

COMPONENT CHANGES

L3 (3rd Video IF) is changed to Part #762024.

L10 (Ratio Detector) is changed to Part #774006.

C24 is increased from 47000mmf to 100000mmf.

C36 is increased from .0047 to .047.

C37 is decreased from 1000mmf to 820mmf.

C40 is increased from .0047 to .01.

C45 is increased from 3900mmf to 4700mmf.

C64 is increased from 68mmf to 100mmf.

C65 is decreased from 82mmf to 68mmf.

C66 is decreased from 82mmf to 68mmf.

R1A, B, C is changed to Part #802037.

R2A, B, C is changed to Part #802025.

R11 is replaced with a RF Choke (Part #750004).

R33 is omitted. R33 is replaced with a 47K ½ watt resistor, which is connected from ground to the junction of R9 and R30.

R34 is decreased from 100K to 47K.

R35 is decreased from 22K to 15K.

R36 is increased from 22K to 39K 1 watt.

R38 is increased from 10K to 22K.

R39 is decreased from 220Ω to 180Ω.

R40 is increased from 33K to 47K.

R41 is decreased from 10meg to 4.7meg.

R53 is increased from 1800Ω to 2200Ω 1 watt.

R56 is decreased from 180K 2 watt to 68K 1 watt and is connected to the 115 volt source instead of to the junction of R59, C63.

R63 is omitted.

(CONTINUED ON THE REVERSE SIDE)

SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 1 IN SET 496

CORONADO MODELS TV2-9402D, E

Coronado Model TV2-9402B was covered in PHOTOFACT Folder 1 - Set 496.

Models TV2-9402D, E which are electrically similar except for the following changes are added with the publication of this bulletin.

TV2-9402D

TUNER CHANGE

The VHF Tuner is changed to Part #25A1179. The UHF Tuner Rear Cover is changed to Part #25A1180. Schematic diagrams and parts list for these tuners may be found in PHOTOFACT Folder 2 - Set 474.

TV2-9402E

CABINET CHANGE

The cabinet is changed to Part #S-38A1272.

COMPONENTS ADDED

A thermistor (79Ω Cold ±25%) (Part #834002) is added across the primary winding of T1.

A 3 amp. @ 125Volt Fuse is inserted in the primary winding of T1.

A .047 capacitor is added across the interlock.

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	428005	
Mask	402001	
Knob	500048	Fine Tuning
Knob	508017	Off-On Volume, Brightness
Knob	512024	Contrast, Vertical Hold
Knob	500049	Tone
Cabinet	354049	Cherry, Model C358l
Cabinet	354044	Ebony, Model K358l
Cabinet	354045	Walnut, Model W358l
Cabinet	354046	Mahogany, Model M358l
Cabinet	354047	Blonde, Model B358l
Cabinet	354048	Maple, Model SP358l
Cabinet	352061	Walnut, Model W360l
Cabinet	352062	Mahogany, Model M360l
Cabinet	352063	Blonde, Model B360l
Cabinet	352064	Maple, Model SP360l

PHOTOFACT® Folder with CIRCUITRACE®

**ADMIRAL CHASSIS
7V1, 7V1A, 7V1B**

MODEL Y2027

TRADE NAME	Admiral Models Y2009(Ch. 7V1); Y2011, Y2012, Y2013(Ch. 7V1A); Y2023, Y2027, Y2028 (Ch. 7V1B)		
MANUFACTURER	Admiral Sales Corp., Service Div., 903 Morrissey Drive, P. O. Box 845, Bloomington, Illinois		
TYPE SET	Battery Operated Transistorized Portable AM Receiver		
POWER SUPPLY	6 Volts DC	RATING	12MA@6 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	535 — 1620KC		20MA@6 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools: A1, A2, A3, A6...GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8729, 8987, 8988, 8989
WALSCO #2515, 2531, 2532

A4, A5..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Loop	455KC (400∿ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
2.	"	1620KC	"	"	A4	"
3.	"	1400KC	1400KC Signal.	"	A5	Adjust for maximum output while rocking tuning gang.
4.	"	535KC	Tuning gang fully closed.	"	A6	Adjust for maximum output. Repeat Steps 2 and 4.

DISASSEMBLY

1. Remove knobs. (Pull off)
2. Insert coin in slot on bottom edge of cabinet and twist. Remove cover.
3. Remove 4 screws from corners of printed board.
4. Remove board from cabinet.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

KF134

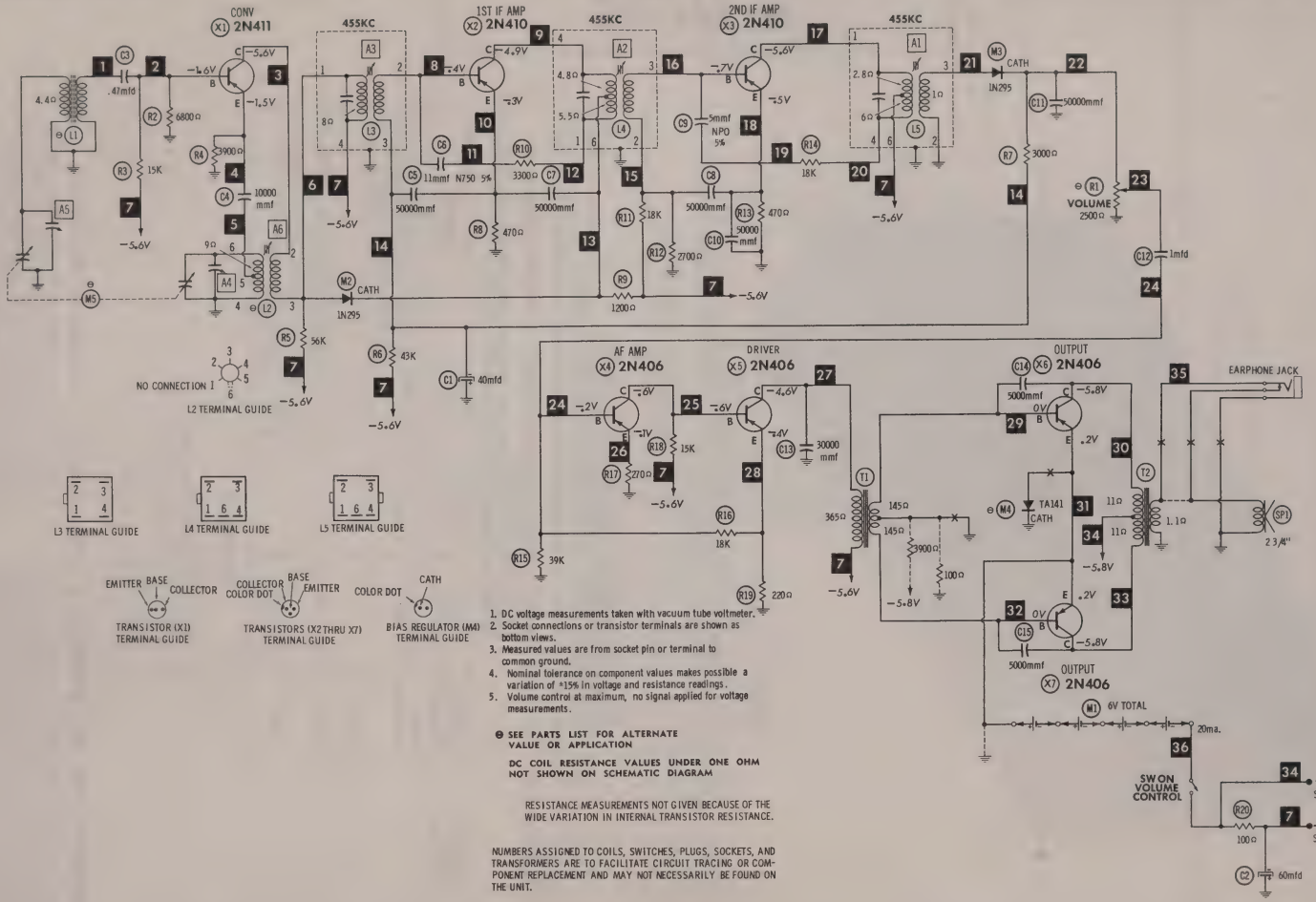
DATE 12 — 60 SET 510 FOLDER 4

ADMIRAL CHASSIS
7V1, 7V1A, 7V1B

ADMIRAL CHASSIS
7V1, 7V1A, 7V1B

SET 510 FOLDER 4

FOLDER 4



1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE

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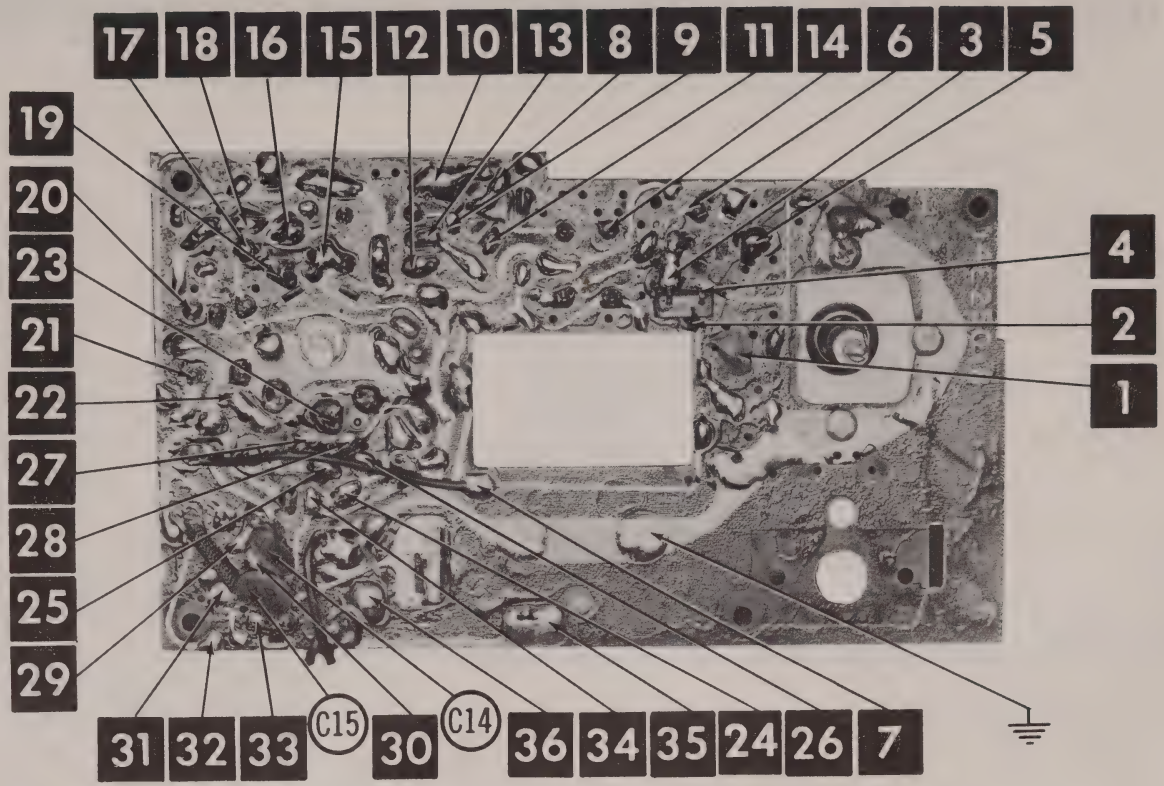
ADMIRAL CHASSIS 7V1, 7V1A, 7V1B



A Howard W. Sams CIRCUITRACE Photo

PRINTED BOARD

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N411	Converter	2N411	2N486	2N411	PNP
X2	2N410	1st IF Amplifier	2N410	2N483	2N411	PNP
X3	2N410	2nd IF Amplifier	2N410	2N483	2N411	PNP
X4	2N406	AF Amplifier	2N406	2N363	2N406	PNP
X5	2N406	Driver	2N406	2N363	2N406	PNP
X6	2N406	Output	2N406	2N633	2N406	PNP } Matched
X7	2N406	Output	2N406	2N633	2N406	PNP } Pair

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	ADMIRAL PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1	40	3	67B32-16	BCD3050	ECPB14	PET140		VL-1045	
C2	60	6	67B32-15	BCD6075	ECPB116	PET1260		VL-1097	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	.47mfd 3V	#65B45-16		UK-474				
C4	10000		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C5	50000		C80V503AM	UK10-503	H-05S5		TA-150	TG-S50
C6	11 N750 5%		N750-D1 10		C10Q12U	CCTN-120	CN7-412	10TCU-Q12
C7	50000		C80V503AM	UK10-503	H-05S5		TA-150	TG-S50
C8	50000		C80V503AM	UK10-503	H-05S5		TA-150	TG-S50
C9	5 NPO 5%		NPO-D1 5		C10V5C	CCTO-050	CNO-547	10TCC-V50
C10	50000		C80V503AM	UK10-503	H-05S5		TA-150	TG-S50
C11	50000		C80V503AM	UK10-503	H-05S5		TA-150	TG-S50
C12	1mfd 3V	#65B45-15		UK-105				
C13	30000	#65B45-8						TG-S30
C14	5000		BPD-005	DM-502	H-05D5	CCD-502	TA-250	TG-D50
C15	5000		BPD-005	DM-502	H-05D5	CCD-502	TA-250	TG-D50

Admiral Part Number.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	ADMIRAL PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	2500Ω	½	75B51-4					Loudness & Switch. Note 1

Note 1. Chassis 7V1, 7V1A use Part #75B51-3.

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R2	6800Ω	
R3	15K	
R4	3900Ω	
R5	56K	
R6	43K	
R7	3000Ω	
R8	470Ω	

ITEM No.	RATING	REMARKS
R9	1200Ω	
R10	3300Ω	
R11	18K	
R12	2700Ω	
R13	470Ω	
R14	18K	
R15	39K	

ITEM No.	RATING	REMARKS
R16	18K	
R17	270Ω	
R18	15K	
R19	220Ω	
R20	100Ω	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		ADMIRAL PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Loopstick	69C218-13①				
L2	Osc. Coil	69B232-6②				
L3	1st IF Trans.	72C182-13				
L4	2nd IF Trans.	72C182-11				
L5	3rd IF Trans.	72C182-12				

① Part #69C218-12 used in Chassis 7V1, 7V1A.
② Part #69B232-8 used in Chassis 7V1, 7V1A.

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ADMIRAL PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.3	1	79B84-2					

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ADMIRAL PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	200Ω CT	10-12Ω	79B85-2					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	ADMIRAL PART No.	QUAM PART No.	
SP1	2 3/4"	PM	10-12Ω	78B125-3	27A06Z12	

BATTERIES

ITEM No.	VOLTAGE	ADMIRAL PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V			930 *		1015 *		M-15R *	* 4 Required

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		ADMIRAL PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M2	1N295	57B1-2	1N295	1N295	AVC, (Pigtail)
M3	1N295	57B1-2	1N295	1N295	Detector (Pigtail)
M4	TA141	57B1-29			Bias Regulator (Not used in Chassis 7V1)

MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M5	Tuning Cap.	68C73-1	(Direct) 2 Gang, Chassis 7V1, & 7V1A
	Tuning Cap.	68C75-2	(Vernier) 2 Gang, Chassis 7V1B
	Printed Board	14E250-8	

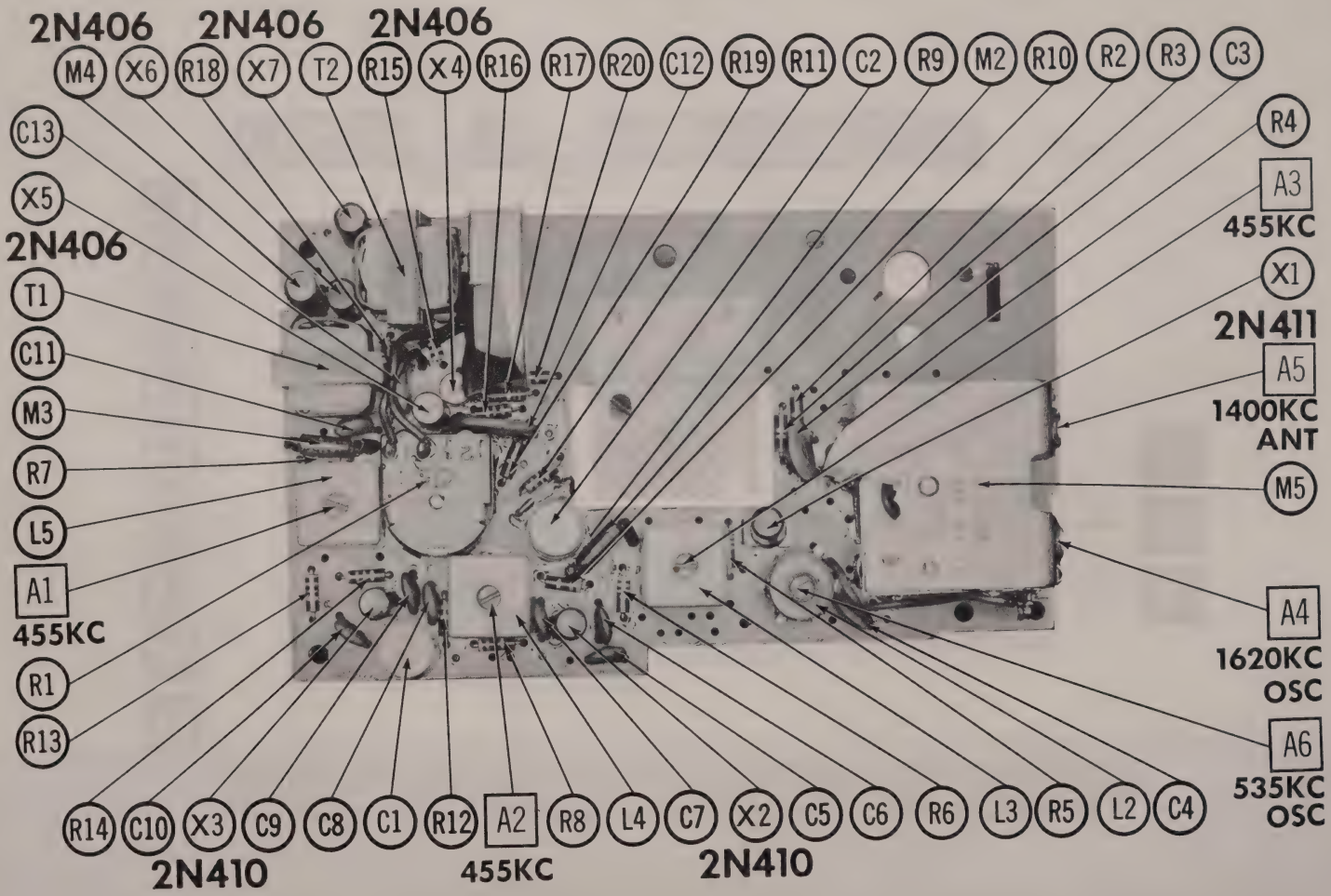
CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	33C326-3	Tuning, Models Y2009, Y2011, Y2012, Y2013
Knob	33C358-1	Tuning, Inner } Models Y2023, Y2027, Y2028
Knob	33C358-2	Tuning, Outer } Models Y2023, Y2027, Y2028
Knob	33C326-1	Volume
Cabinet Front	34D152-1	Gray, Model Y2009
Cabinet Front	34D152-4	Black, Model Y2011
Cabinet Front	34D152-2	Coral, Model Y2012
Cabinet Front	34D152-3	White, Model Y2013
Cabinet Front	34E149-3	White, Model Y2023
Cabinet Front	34E149-1	Beige, Model Y2027
Cabinet Front	34E149-2	Green, Model Y2028
Cabinet Rear	34E141-11	Gray, Model Y2009
Cabinet Rear	34E141-15	Black, Model Y2011
Cabinet Rear	34E141-3	Coral, Model Y2012
Cabinet Rear	34E141-5	White, Model Y2013
Cabinet Rear	34E142-9	White, Model Y2023
Cabinet Rear	34E142-10	Beige, Model Y2027
Cabinet Rear	34E142-11	Green, Model Y2028
Handle	37A193-1	Models Y2011, Y2012, Y2013

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors



PRINTED BOARD-TOP VIEW

PHOTOFACT® Folder

AIRLINE MODEL
GTL-3829A

AIRLINE MODEL
GTL-3829A

AIRLINE MODEL
GTL-3829A

GENERAL INFORMATION

Airline Model 3829A tape recorder records and plays back two tracks of material on standard-width recording tape, thus doubling playing time of a 3", 5" or 7" reel with no loss of frequency response or quality. The Model 3829A has two speeds, 3 3/4 and 7 1/2 ips.

A jack is provided on the dress plate for an amplified speaker to reproduce 2-track and 4-track stereo tapes.

Using both tracks of tape, recording times are as follows:

Reel Size	3 3/4" Speed	7 1/2" Speed
3" (300 ft.)	1/2 hour	1/4 hour
5" (600 ft.)	1 hour	1/2 hour
7" (1200 ft.)	2 hours	1 hour

Connect this recorder to an outlet supplying 110-120 volts, 60 cycles AC only. Before connecting to line supply, be certain it agrees with these specifications.

Supplied By:

Montgomery Ward & Co.
619 Chicago Avenue
Chicago 7, Illinois

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of CQ438

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SET 510 FOLDER 5

PREPARING FOR OPERATION

1. Open cover and remove power cord, microphone, empty reel, and reel of tape from storage space at rear of unit.
2. Remove cover by sliding hinges apart. Place unit so that controls are accessible and at a convenient height.
3. Plug power cord into any AC outlet having proper frequency and power requirements.
4. Recorder is now ready for use. Before operating, the operator should familiarize himself with the function of the controls.

FUNCTION OF CONTROLS

Function Control

Idle is neutral, or stationary, tape position. Turn knob to the left for Play. To record, depress Record button and hold while turning function selector knob to the right.

IMPORTANT: When recorder is not in use, function selector knob must be in Idle position.

Wind-Rewind Control

Turn control to the right for fast wind; to the left for fast rewind. Before operating Wind-Rewind knob, function selector knob must be placed in Idle position.

Speed Change Control

For 7 1/2 ips, put speed change control in down position; for 3 3/4 ips, in up position. Do not change speeds unless function selector knob is in Idle position.

OPERATING INSTRUCTIONS

Threading Tape

1. Place a reel of tape on the left (supply) spindle and an empty reel on the right (take-up) spindle, making sure the reel slots engage the spindle pins.
2. Unwind approximately 12 inches of tape from left (supply) reel. Hold a section of tape taut and insert in tape slot, making sure dull coated side of tape faces rear of recorder.
3. Insert free end of tape into one of three radial slots in hub of empty reel. Turn reel several turns counterclockwise until tape is secured to reel and all slack is taken up between reels.

To Record

Plug line cord into a convenient wall receptacle and insert microphone into input jack on top of recorder. Turn On-Off-Volume control clockwise until a click is heard and allow sufficient time for unit to warm up. Thread tape as described under "Threading Tape". Turn function selector knob to Record. Adjust Volume control until recording level indicator flashes on high peaks only. To record from radio, phonograph, or television, follow this same procedure, keeping recorder volume at a normal level. To stop tape, turn function selector knob to the Idle position.

To Wind or Rewind Tape

1. Turn function selector knob to Idle.
2. To wind tape onto reel, turn Wind-Rewind control to right and hold. Release the control when the desired section of the tape is reached.
3. To rewind tape, turn Wind-Rewind control to the left. The control need not be held as it locks into position. To stop rewind, return the Wind-Rewind knob to its center position.

To Play a Recorded Tape

1. Follow instructions under "Threading Tape".
2. Turn On-Off-Volume control clockwise until a click is heard and allow sufficient time for unit to warm up.
3. Turn function selector knob to Play.
4. Adjust Volume control for desired listening level.
5. Turn function selector knob to Idle to stop tape.

CAUTION: Do not set function selector knob to Record when Play is desired, as previously recorded portion of tape will be automatically erased.

Erasing Recorded Material

Any recording on tape is automatically erased before a new recording is put on tape when it is in Record. To erase a recording without putting anything on tape, follow normal recording procedure, but leave Volume control at its extreme counterclockwise position.

To Edit and Splice Tape

NOTE: Since one track cannot be edited and spliced without affecting the other track, recordings to be edited should be limited

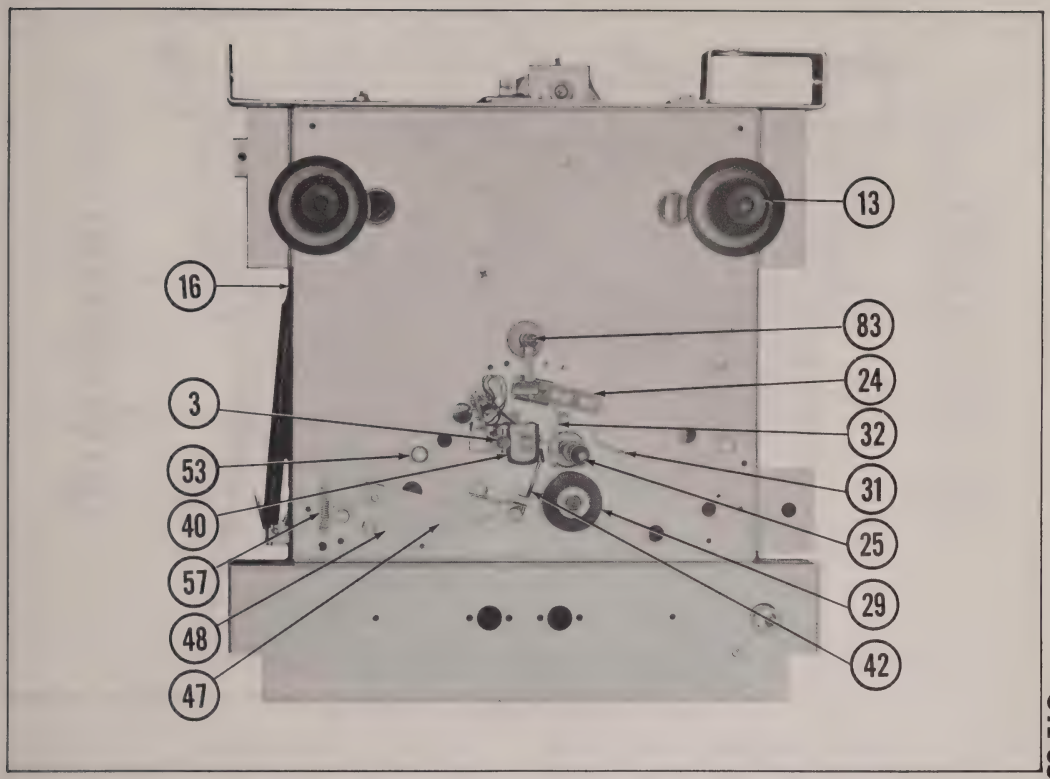


FIG.1 TOP VIEW OF MECHANISM WITH DRESS PLATE REMOVED

to one track only.

1. Tape may be edited by cutting out unwanted portions or by rejoining selections into another sequency. Announcements may be inserted between selections etc. Unused sections can be spliced for re-use.

2. For best results, cut tape at a slight diagonal, join ends with splicing tape on glossy side, and trim any excess width.

Dual-Track Recording

One-half of the tape width is recorded at a time, thereby resulting in two-track recording. This two-track recording is accomplished in the following manner:

1. After a reel of tape has been recorded and all tape wound onto the right (takeup) reel, turn function selector knob to Idle.

2. Remove reels from recorder; turn full reel over and place it on left spindle. Place empty reel on right spindle.

3. Properly thread tape and proceed with recording.

4. After second track has been recorded, first track can be played without rewinding by reversing reel as described in step 2.

DISASSEMBLY

To Remove Recorder from Cabinet

1. Remove four screws on bottom of cabinet.

2. Remove four screws (two on each side) on sides of cabinet.

3. Lift up unit and disconnect speakers.

4. Remove unit from cabinet.

To Remove Amplifier From Tape Transport

1. Disconnect head leads.

2. Disconnect speaker jack.

3. Disconnect external amplifier jack.

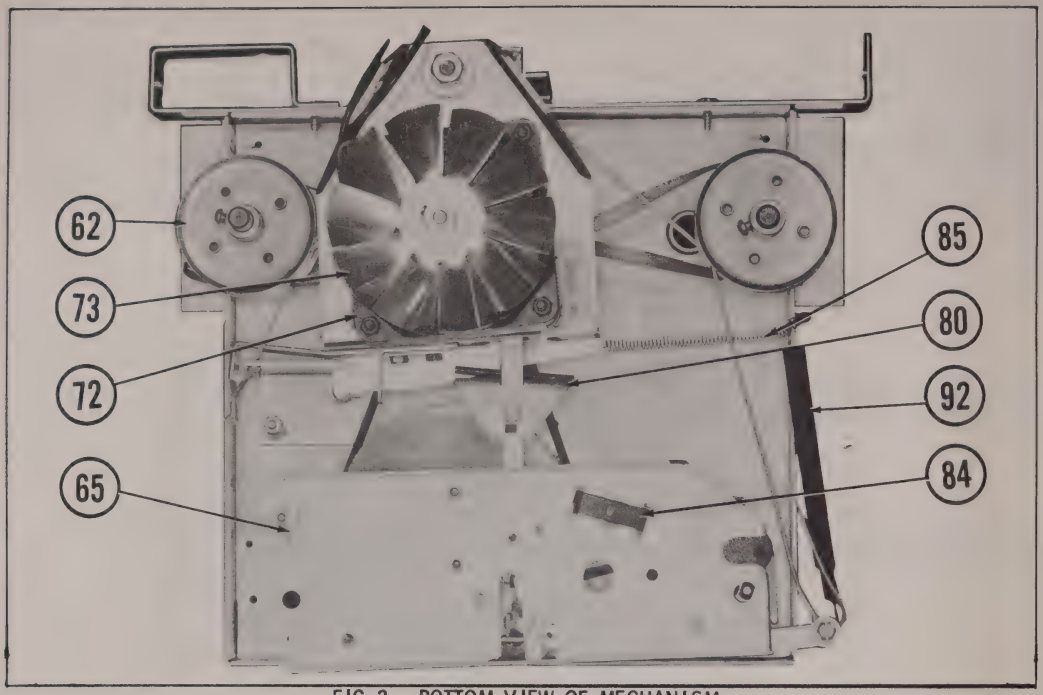


FIG.2 BOTTOM VIEW OF MECHANISM

4. Disconnect microphone input.
5. Disconnect sound lever indicator.
6. Disconnect motor leads.
7. Remove three mounting bolts holding amplifier to tape transport.

CLEANING

Capstan roller assembly (29), capstan shaft, and recording head (40) may accumulate tape oxide coating, which wears off tape as it passes these parts. This accumulation will cause poor performance and should be removed with a soft cloth dipped in alcohol.

LUBRICATION

All moving parts have self-lubricated oilite bearings; therefore, in normal use no lubrication is necessary. When unit is disassembled, clean all bearings with a clean, soft cloth and apply a thin film of oil on bearing surfaces.

MECHANICAL ADJUSTMENTS

Play-Record Head

The recording head (40) must be aligned with the tape. If it is not, low output, loss of high frequencies, or track overlap may result.

CAUTION: The play-record head was adjusted and sealed in place at the factory. Further adjustment is unnecessary unless head becomes faulty and needs replacing. The two adjustments are made as follows:

1. Head height should be adjusted so that top edge of tape aligns evenly with top edge of record head lamination. To adjust, loosen nuts (38) and slightly raise or lower recording head (40).
2. To adjust head for maximum frequency response, head adjustment screw (34) should be turned to the left or right. This moves the head from side to side slightly until maximum high frequencies are obtained. After adjustment, head height should be checked.

Erase Head

Erase head assembly (45) should be adjusted so that the erase magnet affects the top half of recorded tape. This adjustment should be made in the Record position. Loosen erase head adjusting screw (44) in

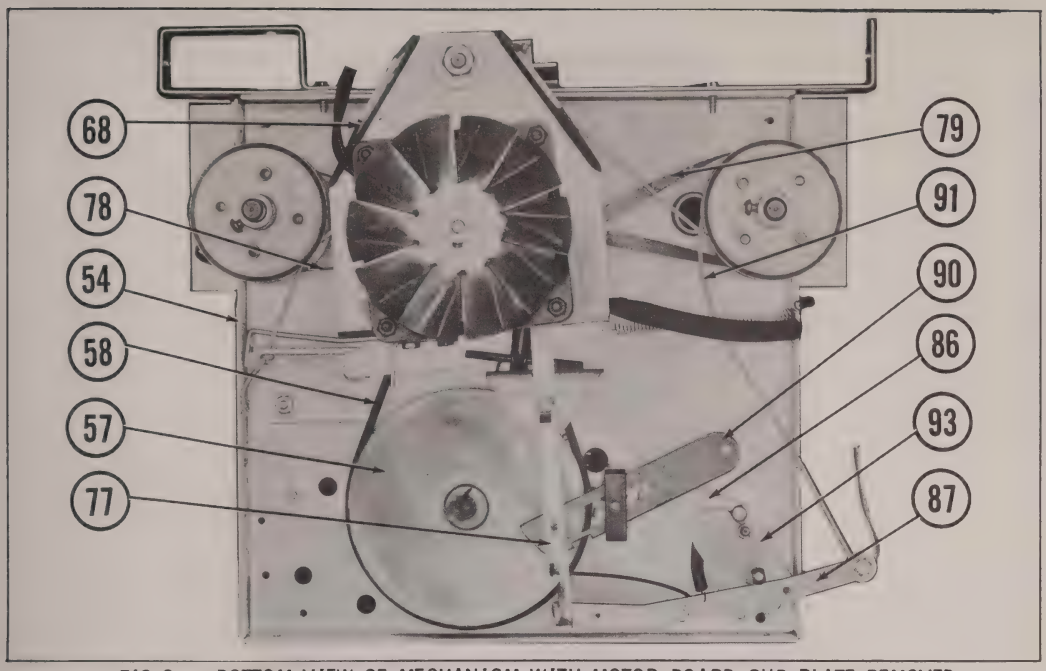


FIG.3 BOTTOM VIEW OF MECHANISM WITH MOTOR BOARD SUB PLATE REMOVED

erase head (45). Erase head assembly (45) is then moved up or down till only the top half of the tape is affected. When properly adjusted, only the top half of the tape will be erased.

Brake Release Bracket

Brake release bracket (80) can be adjusted by loosening screw (81) and moving bracket forward or backward. When bracket (80) is moved to rear of recorder, wind-rewind lever assembly (83) contacts release bracket (80), giving brake cord (91) more slack. For less slack in brake cord (91), reverse the foregoing adjustment.

Spindle End Play

Spindles should have 1/32" to 1/16" up and down movement. Loosen set screw (60) in upper pulley assembly (61) and move pulleys up or down until correct amount of end play is obtained.

TROUBLE CHART

Symptom	Cause	Remedy
Fails to erase.	1. Erase head adjusting screw (44) in erase head assembly (45) loose, causing erase head to remain in Play or Idle position.	1. See "Erase Head Adjustment".
	2. Interlock shaft assembly (84) fails to go down far enough to let interlock slide (90) move to one side. Function selector knob will not go into Record position when this occurs.	2. Check for binding.
No Drive on record or playback.	1. Rubber drive belt (58) loose or broken.	1. Replace drive belt (58).
	2. Take-up belt (78) loose or broken.	2. Replace take-up belt (78).

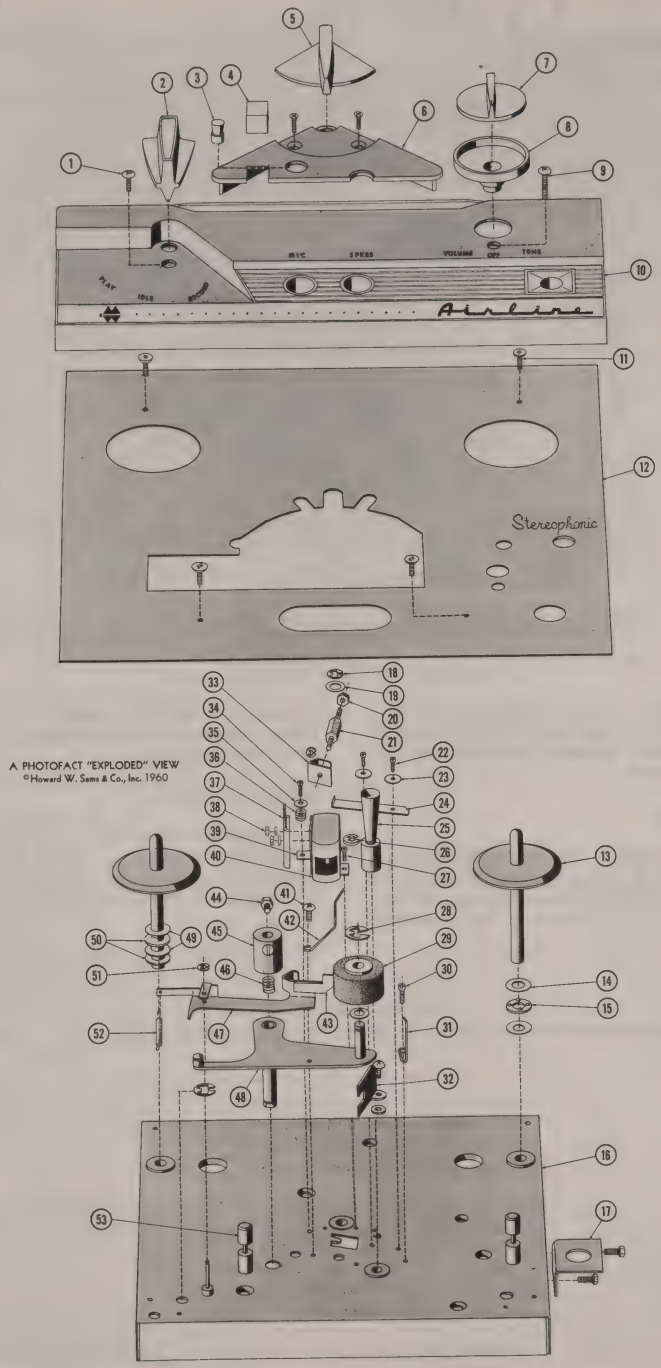


FIG.4A EXPLODED VIEW OF PARTS ABOVE BASEPLATE

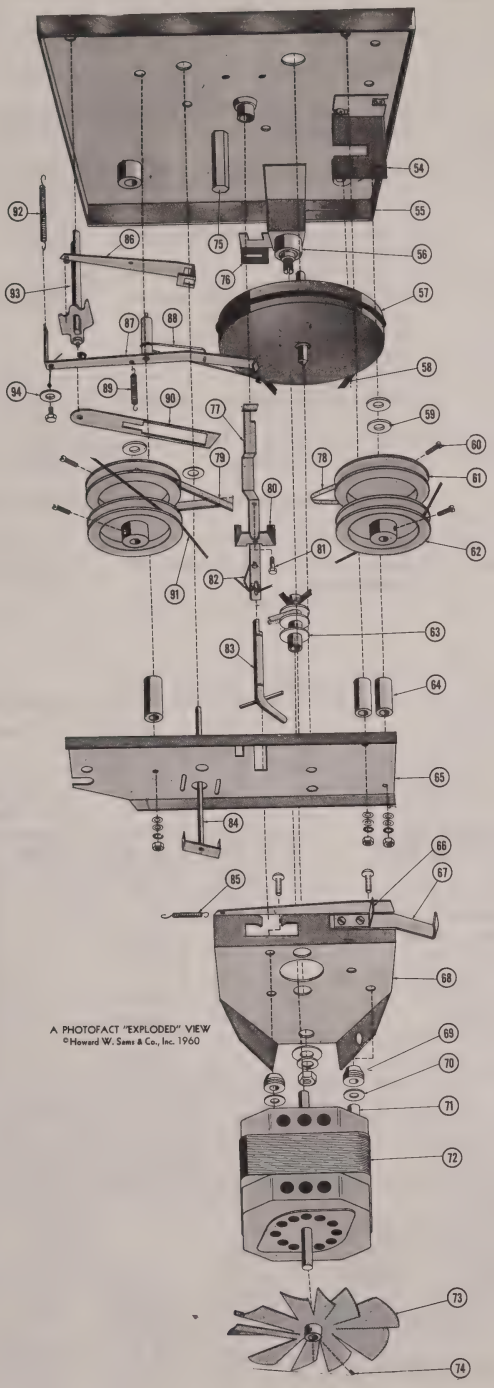


FIG. 4B EXPLODED VIEW OF PARTS BELOW BASEPLATE

TROUBLE CHART (CON'T.)

Symptom	Cause	Remedy
	3. Defective motor (72).	3. Replace motor (72).
	4. Connecting leads fouling fan assembly (73).	4. Dress leads so they will not contact fan assembly (73).
	5. Flywheel and capstan shaft binding.	5. Clean and lubricate flywheel and capstan shaft.
	6. Takeup spring (85) disconnected or defective.	6. Reconnect or replace spring (85).
Speed variation or wow.	1. Dirty or oily capstan sleeve assembly (25), capstan roller assembly (29), or motor pulley (63).	1. Clean with soft cloth and alcohol.
No wind or rewind.	1. Drive belt (58) loose or broken.	1. Replace drive belt (58).
	2. Take-up belt (78) or rewind belt (79) loose or broken.	2. Replace take-up belt (78) or rewind belt (79).
	3. Oil or grease on driving surfaces.	3. Clean with soft cloth and alcohol.
Function control does not operate.	1. Brake spring (88) broken or disconnected.	1. Replace or connect brake spring (88).

MECHANICAL PARTS LIST

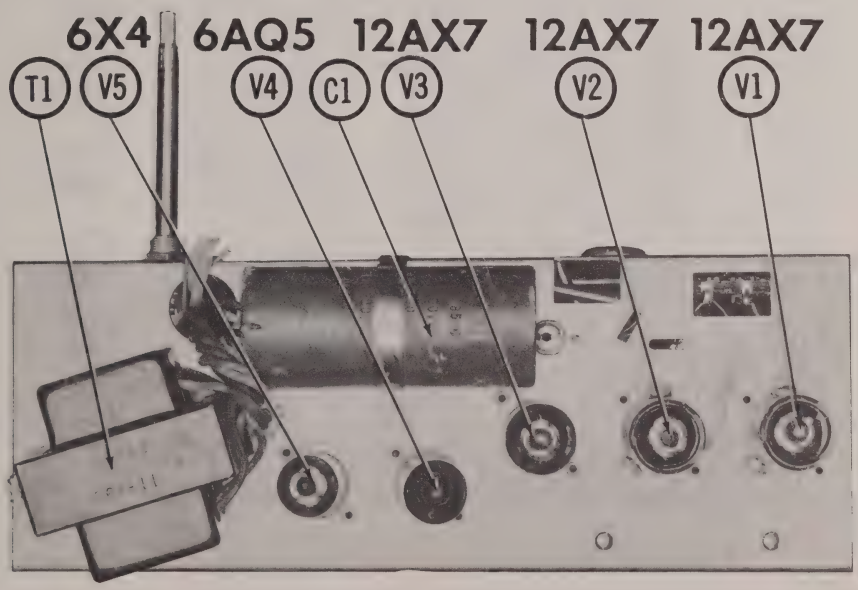
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1		6-32 x 3/4 Fl. Phil. Hd. M. Scr. Brass Pl.	30		Screw No. 6 x 1/4 Lg. Hex. Slotted Sht. Metal Type Z
2	TA-1930	Function Selector Knob	31	TG-414	Tape Guide, Upright
3	TK-256-1	Sound Head Lifting Knob	32	TB-2007	Tape Guide Bracket
4	TA-1431	Record Knob	33	TL-344	Wind-Rewind Latch
5	TK-251	Wind-Rewind Knob	34		Head Adjustment Screw 2-56 x 7/16
6	TE-279-1	Rear Escutcheon	35		No. 2 Flat Washer
7	TA-1432	Volume Control Knob	36	TS-1755	Record Head Spring
8	TK-249	Tone Control Knob	37	TP-1150	Sound Head Lifting Plate
9		6-32 x 1 1/8 Fl. Phil. Hd. M. Scr. Stl. Brass Pl.	38		No. 2 Hex Nut
			39	TB-2028	Recording Head Mounting Bracket
10	TA-1433	Front Escutcheon	40	TH-494	Recording Head
11		6-32 x 5/16 Lg. Truss Phil. Hd. M. Scr. Stl. Brass Pl.	41		Screw 440 x 3/16 Phil.
			42	TE-479	Tape Release Guide
12	TP-1242-1	Motor Board Dress Plate	43	TP-863	Record Head Pressure Pad
13	TS-2152	Spindles	44		Erase Head Adj. Screw
14		.315 I.D. x 9/16 O.D. .010 Washer	45	TA-1123	Erase Head Assembly
15	TB-809	Ball Bearing Race	46	TS-1659	Erase Head Spring
16		Base Plate	47	TA-1447	Pressure Pad Bracket Assembly
17	TB-2140	Amplified Speaker Jack Bracket	48	TA-1186	Capstan Roller Plate Assembly
18	5103-25	"C" Washer	49		.315 I.D. x 1/2 O.D. x .032 Thk. Fibre Washer
19		.255 I.D. x 1/2 O.D. x .010 Stl. Washer	50		.315 I.D. x 9/16 O.D. x .010 Flat Steel Washer
20		6-32 Hex Nut			
21	TP-983	Hex Shaft	51		"C" Washer
22		6-32 x 3/16 Screw	52	TS-1931	Pressure Pad Spring
23		No. 6 Lock Washer	53	TT-712	Tape Guide Post
24	TS-1854	Spring	54	TB-619	Excursion Limit Bracket
25	TA-1204	Capstan Sleeve Assembly	55	TB-878	Bearing Motor Pivot Bracket
26		"C" Washer	56	TB-635	Bearing Motor Pivot
27		Head Adjustment Screw 2-56 x 5/16	57	TF-304	Flywheel
28		"C" Washer	58*	TO-171*	*Linear "O" Ring Drive Belt
29	TA-1002	Capstan Roller Assembly	59		.315 x 1/2 O.D. x .062 Washer

MECHANICAL PARTS LIST (CON'T.)

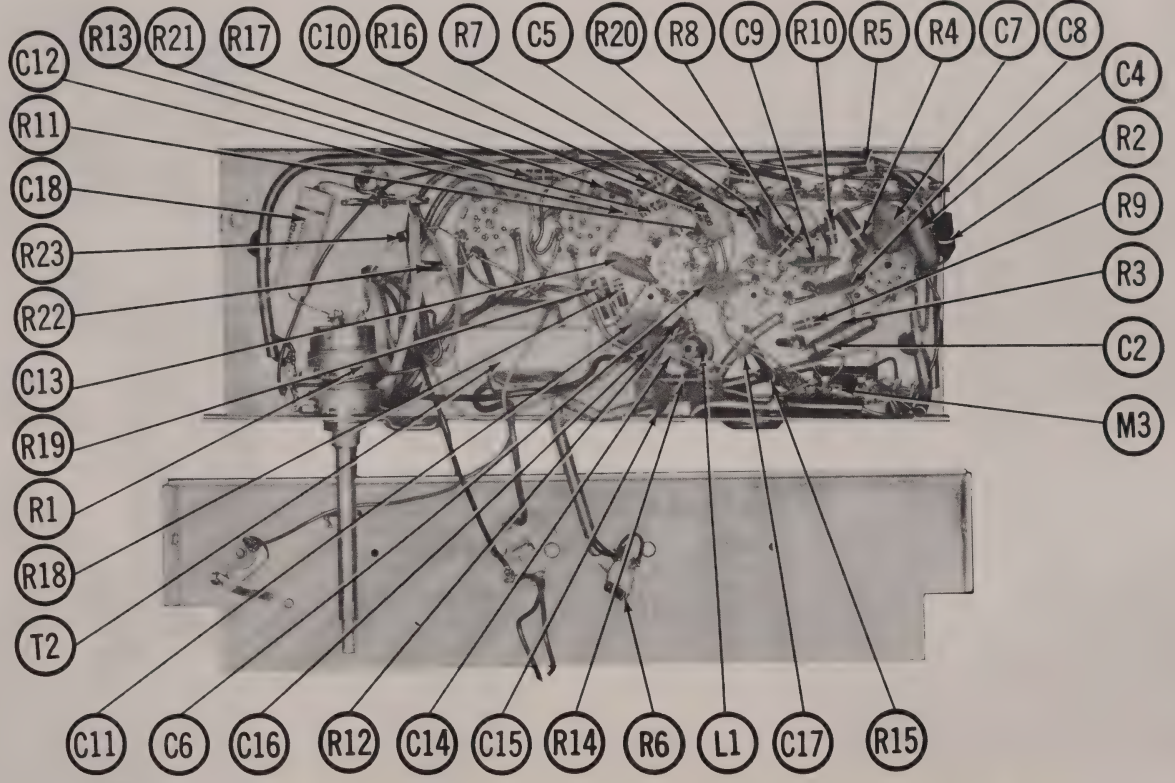
Ref. No.	Part No.	Description
60		Set Screw 6-32 x 3/16 Round
61	TA-265	Upper Pulley Assembly
62	TA-1183	Lower Pulley Assembly
63		Part of Motor Assembly
64	TS-1630	Spacer
65	TA-1205	Motor Board Sub Plate
66	TB-879	Rewind Stop Bracket
67	TH-515	Excursion Limit Hook
68	TB-1061	Motor Mounting Bracket
69	TM-407	Motor Shock Mount
70		No. 6 Washer, Flat
71	TS-1942	Motor Spacer
72	TA-1448	Motor Assembly
73	TA-1206	Fan Assembly
74		8-32 x 3/16 Slotted Set Screw
75	TS-1270	Drop Spacing Stud
76	TB-859	Brake Rod Guide Bracket
77	TA-1128	Brake Rod Sub Assembly
78	TB-998	Takeup Belt

Ref. No.	Part No.	Description
79*	TB-999*	*Rewind Belt
80	TB-858	Brake Release Bracket
81		No. 6 x 1/4 Sheet Metal Screw Type Z
82	TS-1658	Brake Spring
83	TA-1121	Wind-Rewind Lever Assembly
84	TA-1207	Interlock Shaft Assembly
85	TS-2022	Takeup Spring
86	TA-1122	Capstan Roller Plate Cam Lever Assembly
87	TA-1004	Switch Detent Lever Assembly
88	TS-1657	Brake Rod Return Spring
89	TS-1681	Capstan Roller Plate Lever Spring
90	TS-1625	Interlock Slide
91	TB-1004	Brake Cord (25" Long)
92	TS-1905	Switch Detent Lever Spring
93	TA-1119	Switch Shaft and Cam Assembly
94		No. 6 Flat Washer

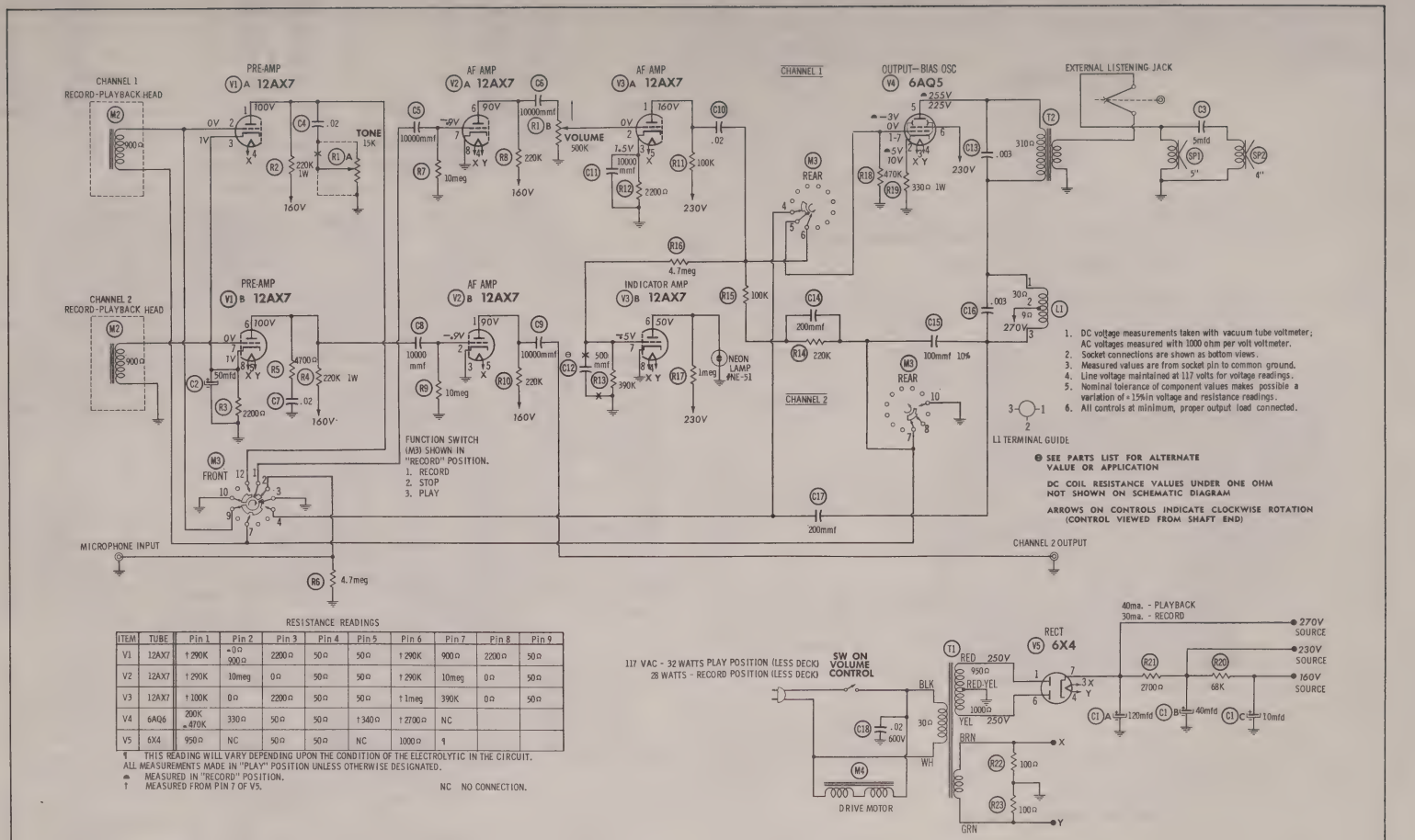
* Linear "O" Ring Drive Belt
Walsco Part No. 1410-14
* Rewind Belt, Walsco Part
No. 1409-04



AMPLIFIER CHASSIS - TOP VIEW



AMP CHASSIS - BOTTOM VIEW



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AX7	†290K	▲0Ω 900Ω	2200Ω	50Ω	50Ω	†290K	900Ω	2200Ω	50Ω
V2	12AX7	†290K	10meg	0Ω	50Ω	50Ω	†290K	10meg	0Ω	50Ω
V3	12AX7	†100K	0Ω	2200Ω	50Ω	50Ω	†1meg	390K	0Ω	50Ω
V4	6AQ6	200K ▲470K	330Ω	50Ω	50Ω	†340Ω	†2700Ω	NC		
V5	6X4	950Ω	NC	50Ω	50Ω	NC	1000Ω	¶		

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
ALL MEASUREMENTS MADE IN "PLAY" POSITION UNLESS OTHERWISE DESIGNATED.
▲ MEASURED IN "RECORD" POSITION.
† MEASURED FROM PIN 7 OF V5.
NC NO CONNECTION.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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AIRLINE MODEL GTL-3829A

AIRLINE MODEL
GTL-3829A

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (GENERAL ELECTRIC • RAYTHEON • SYLVANIA)
V1	Preamplifier	12AX7
V2	AF Amplifier	12AX7
V3	AF Amp. -Indicator Amp.	12AX7
V4	Output-Bias Osc.	6AQ5
V5	Rectifier	6X4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA AIRLINE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	120	300	TC-1969	PR4-300	BBRT0196	WQ405	CDBQ-1005	TVA-3563	
B	40	300							
C	10	250							
C2	50	3	TC-1550	PTT-3050	NLW50-3	TT6X50	ML50-3	TE-1058	
C3	5	12	TC-1718	PTT-12005	NLW5-15	TT12X5	ML5-12	TE-1127	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	.02 300V	Note 1	P488N-02	DD-203	CUB4S2	4DP-2-203	GEM-412	4TM-S20
C5	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C6	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C7	.02 300V		P488N-02	DD-203	CUB4S2	4DP-2-203	GEM-412	4TM-S20
C8	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C9	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C10	.02 300V		P488N-02	DD-203	CUB4S2	4DP-2-203	GEM-412	4TM-S20
C11	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C12	500		BPD-0005	DD-501	BYA10T5	CCD-501	B-350	10TS-T50
C13	.003 300V		P488N-003	D6-302	CUB6D3	6DP-1-302	GEM-623	6TM-D30
C14	200		BPD-0002	DD-201	L10T2	CCD-201	GP320	10TS-T20
C15	100 10%		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C16	.003 300V		P488N-003	D6-302	CUB6D3	6DP-1-302	GEM-623	6TM-D30
C17	200		BPD-0002	DD-201	L10T2	CCD-201	GP320	10TS-T20
C18	.02 600V		P888N-02	DD-203	CUB6S2	6DP-2-203	GEM-612	6TM-S20

Note 1. Not used in some versions.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA AIRLINE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	15K		TC-1694	F1-27		† QJ-1205R	■ UE3905-S	Tone
B	500K			R2-41				Volume
C	Switch			KR-1				Power Off-On

† "CONCENTRIKIT" equivalent: K-6 Kit with base elements and shafts: B11-118, P13-217 (Panel) (Not available as a factory assembled unit). B13-133, R1-300 (Rear) 76-1 (Switch)

■ "STA-LOC" equivalent: FA153L, RU55A, OS2562, IS3000, US41.

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R2	220K 1W	
R3	2200Ω	
R4	220K 1W	
R5	4700Ω	
R6	4.7meg	
R7	10meg	
R8	220K	
R9	10meg	
R10	220K	
R11	100K	
R12	2200Ω	
R13	390K	
R14	220K	
R15	100K	
R16	4.7meg	
R17	1meg	
R18	470K	
R19	330Ω 1W	
R20	68K	
R21	2700Ω	
R22	100Ω	
R23	100Ω	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA AIRLINE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	NOTES
L1	Bias Osc. Coil	TC-1510				

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA AIRLINE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V@ .3A	500V CT @ .040A DC	6.3V@ 2A	TT-790					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA AIRLINE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	5100Ω	3-4Ω	TT-791	A-2930	A-3877	24S51	S-3X	

SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA AIRLINE PART No.	QUAM PART No.	NOTES
SP1	5"	PM	3-4Ω	TS-1926	5A1	
SP2	4"	PM	3-4Ω	TS-1927	4A07	

MISCELLANEOUS

ITEM No.	PART NAME	AIRLINE PART No.	NOTES
M1	Head Ass'y.	TA-1123	Erase
M2	Head Ass'y.	TH-584	Record-Play (1/4 Track Stereo)
M3	Switch		Function (Rotary Wafer)
M4	Motor Ass'y.	TA-1448	Includes Pulley
	Fan Ass'y.	TA-1206	
	Microphone & Plug	TM-403	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	TA-1930	Function Selector
Knob	TA-1431	Record
Knob	TK-256-1	Head Lifting
Knob	TK-251	Wind-Rewind
Knob	TA-1432	Volume
Knob	TK-249	Tone
Cabinet	TC-1990-3	With Cover

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No.	8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No.	1765-B (6 Ft. Length) 1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No.	8401
Phono Pick-up Arm Cable	Use BELDEN No.	8430 (Two Conductor - Twisted)

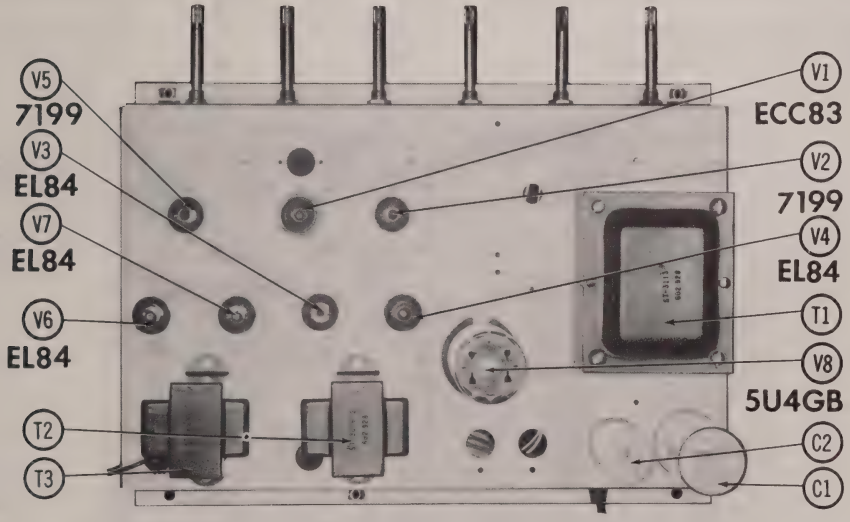
PHOTOFACT® Folder

**ANDREA MODEL
CP-A1S (Ch. A1S)**

ANDREA MODEL
CP-A1S (Ch. A1S)

TRADE NAME	Andrea Model CP-A1S (Ch. A1S)
MANUFACTURER	Andrea Radio Corp., 27-01 Bridge Plaza North, Long Island City 1, N. Y.
TYPE SET	AC Operated 8 Tube Stereo Phono Amplifier With 4 Speed Automatic Record Changer
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles RATING 135 Watts, 1.2 Amp. @117 Volts AC (Less Motor)

FOR SERVICE INFORMATION ON RECORD CHANGER — SEE SIMILAR V-M 1201 — PHOTOFACT SET 436
FOLDER 18 OR RECORD CHANGER MANUAL RC-12



ANDREA MODEL
CP-A1S (Ch. A1S)

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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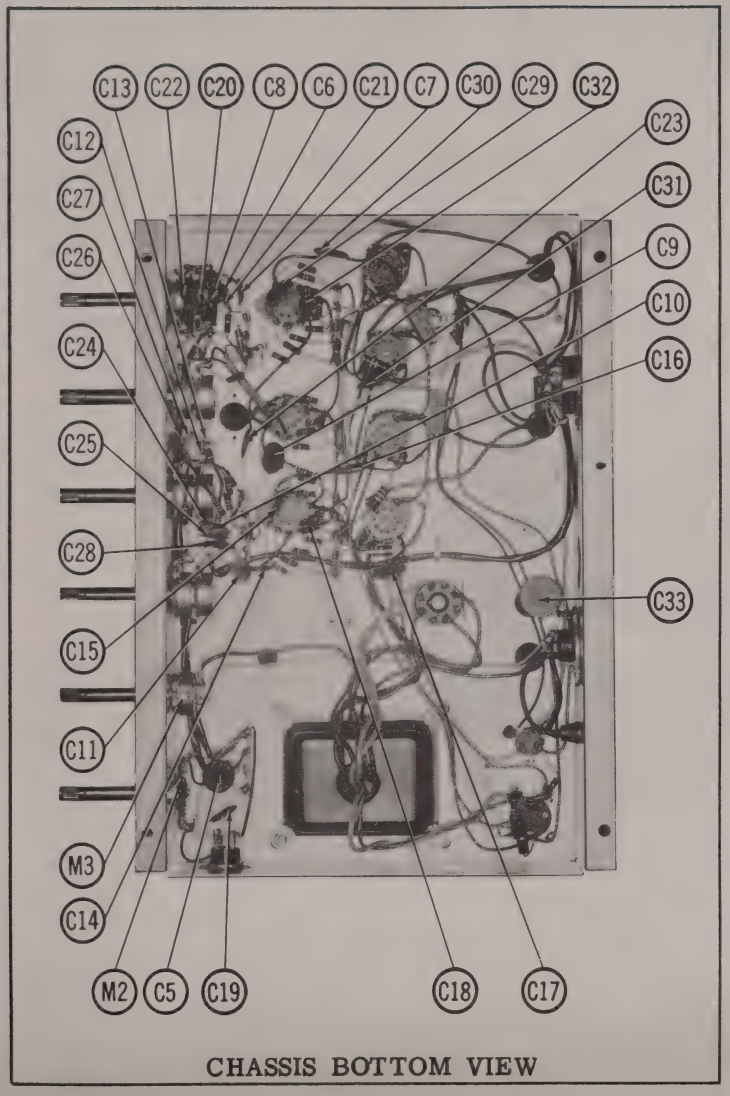
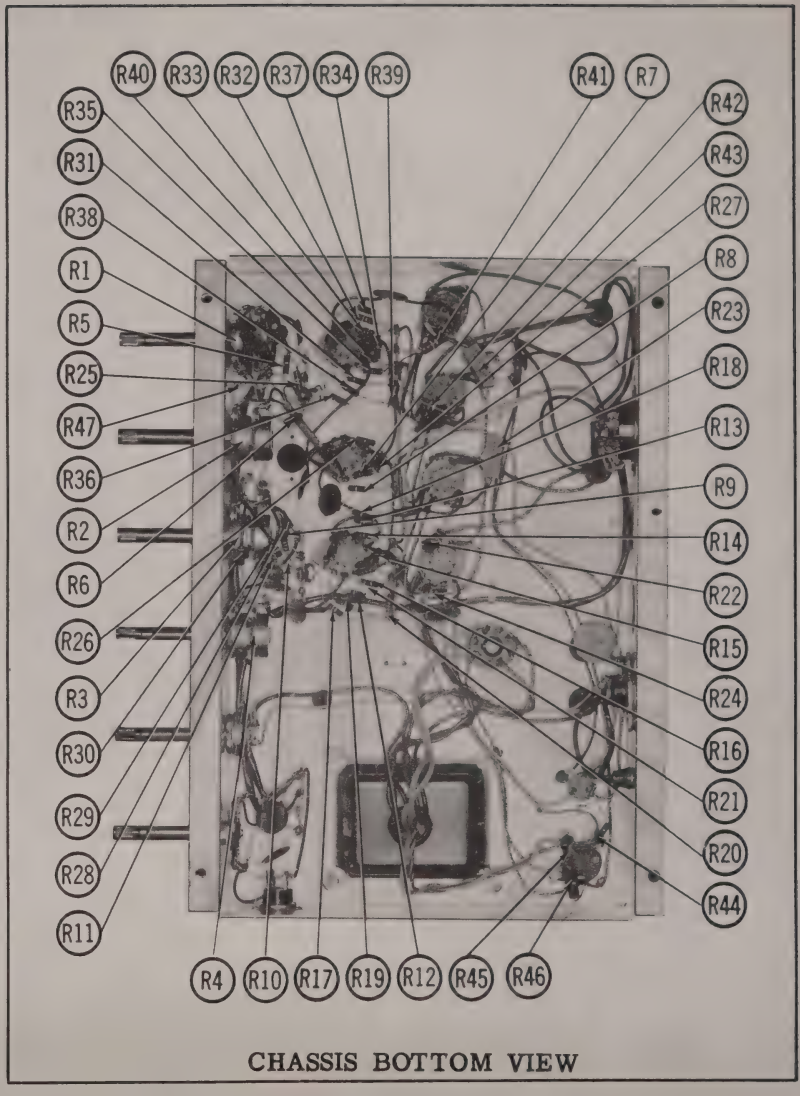
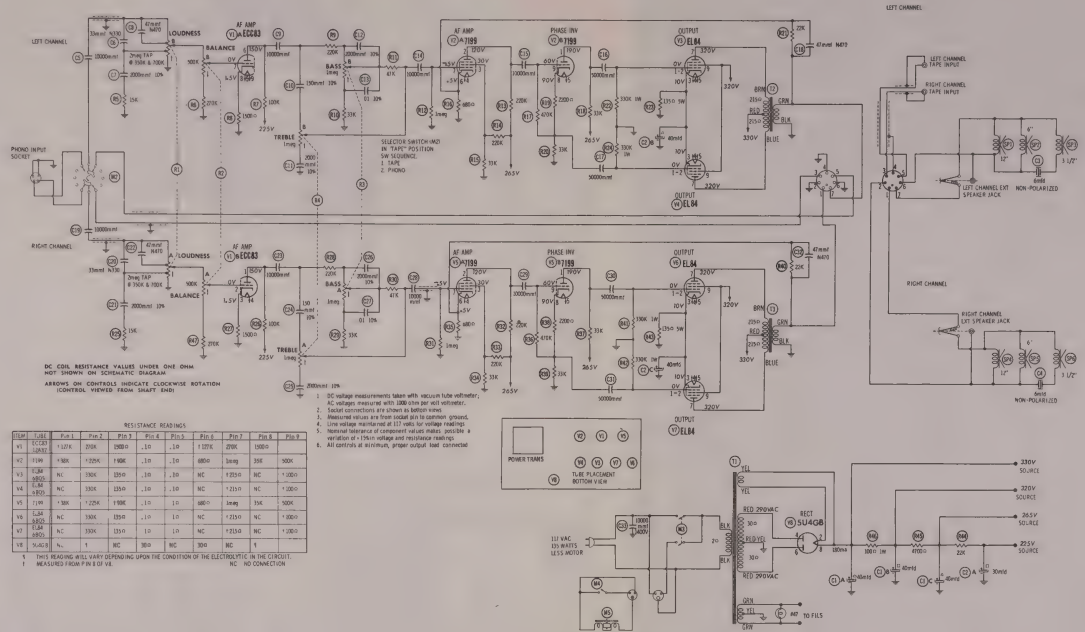


CHASSIS BOTTOM VIEW



CHASSIS BOTTOM VIEW



RESISTANCE READINGS

TUBE	TYPE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC83 (LEFT)	1 MEG	270K	2500Ω	1.0	1.0	1 MEG	270K	1500Ω	
V2	7199	1 MEG	1 MEG	1.0	1.0	1.0	680Ω	1meg	35K	100K
V3	EL84 (LEFT)	NC	330K	135Ω	1.0	1.0	NC	1 215Ω	NC	1 100Ω
V4	EL84 (LEFT)	NC	330K	135Ω	1.0	1.0	NC	1 215Ω	NC	1 100Ω
V5	7199	1 MEG	1 MEG	1 MEG	1.0	1.0	680Ω	1meg	35K	100K
V6	EL84 (RIGHT)	NC	330K	135Ω	1.0	1.0	NC	1 215Ω	NC	1 100Ω
V7	EL84 (RIGHT)	NC	330K	135Ω	1.0	1.0	NC	1 215Ω	NC	1 100Ω
V8	SU4GB	NC	1	NC	350Ω	NC	300Ω	NC	1	

1 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
1 MEASURED FROM PIN 8 OF V8.

NC NO CONNECTION

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings
5. Nominal tolerance of component values makes possible a variation of ± 15% in voltage and resistance readings
6. All controls at minimum, proper output load connected

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ANDREA MODEL CP-A15 (Ch. A15)

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (◆ GENERAL ELECTRIC)	TYPE (◆ RAYTHEON)	TYPE (◆ SYLVANIA)
V1	Left Channel AF Amp. - Right Channel AF Amp.	ECC83/12AX7		
V2	Left Channel AF Amp. - Left Channel Phase Inv.	7199		
V3	Left Channel Output	EL84/6BQ5		
V4	Left Channel Output	EL84/6BQ5		
V5	Right Channel AF Amp. - Right Channel Phase Inv.			7199
V6	Right Channel Output			EL84/6BQ5
V7	Right Channel Output			EL84/6BQ5
V8	Rectifier			5U4GB

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA ANDREA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	▲40	450	HCE-1364	AFH3-44	C0350	FP377	TMT-3748	TVL-3787	
B	■40	450							
C	▲40	450							
C2A	■30	450	HCE-1365	AFH3-181-50	C1414	FP342.7		TVL-2708.8* TVA-1413	
B	▲40	25							
C	40	25							
C3	6	10NP	HCE-1343	PRS6200	BBR8-150	TCN106		TVANS-1111 *	
C4	6	10NP	HCE-1343	PRS6200	BBR8-150	TCN106		TVANS-1111 *	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C5	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C6	33 N330	#HCC-1962				*		10TCS-Q33
C7	2000 10%		DI-2000		PM6D2	CCD-202	GP220	10TS-D20
C8	47 N470	#HCC-1961				*		
C9	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C10	150 10%		DI-150	DD-151	L10T15	CCD-151	GP315	10TS-T15
C11	2000 10%		DI-2000		PM6D2	CCD-202	GP220	10TS-D20
C12	2000 10%		DI-2000		PM6D2	CCD-202	GP220	10TS-D20
C13	.01 100V 10%		V84C2S1-10%		PM4S1	4DP-1-103	GEM-1611	4TM-S10
C14	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C15	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C16	50000		BPD-05	DD-503	CUB2S5	4DP-3-503	GP150	5HK-S50
C17	50000		BPD-05	DD-503	CUB2S5	4DP-3-503	GP150	5HK-S50
C18	47 N470	#HCC-1961				*		
C19	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	33 N330	#HCC-1962				*		10TCS-Q33
C21	2000 10%		DI-2000		PM6D2	CCD-202	GP220	10TS-D20
C22	47 N470	#HCC-1961				*		
C23	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C24	150 10%		DI-150	DD-151	L10T15	CCD-151	GP315	10TS-T15
C25	2000 10%		DI-2000		PM6D2	CCD-202	GP220	10TS-D20
C26	2000 10%		DI-2000		PM6D2	CCD-202	GP220	10TS-D20
C27	.01 100V 10%		V84C2S1-10%		PM4S1	4DP-1-103	GEM-1611	4TM-S10
C28	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C29	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C30	50000		BPD-05	DD-503	CUB2S5	4DP-3-503	GP150	5HK-S50
C31	50000		BPD-05	DD-503	CUB2S5	4DP-3-503	GP150	5HK-S50
C32	47 N470	#HCC-1961				*		
C33	10000 1400V		DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
# Andrea Part Number.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ANDREA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	2meg *		GRV-882	BT-175				Loudness, Right Channel
B	2meg *			STR-175				Loudness, Left Channel
R2A	500K		GRV-883	B-59	AD47-500K-S		FA55L	Balance, Right Channel
B	500K			SR-59	Not Req.		RU55L	Balance, Left Channel
C	Shaft			Not Req.	KSS-3		CS3500	
R3A	1meg		GRV-881	B-70	AD47-1meg-Z		FA16A	Bass, Right Channel
B	1meg			SR-70	Not Req.		RU16A	Bass, Left Channel
C	Shaft			Not Req.	KSS-3		CS3500	
R4A	1meg		GRV-881	B-70	AD47-1meg-Z		FA16A	Treble, Right Channel
B	1meg			SR-70	Not Req.		RU16A	Treble, Left Channel
C	Shaft			Not Req.	KSS-3		CS3500	

* Taps ⓐ 350K & 700K.

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R5	15K	
R6	270K	
R7	100K	
R8	1500Ω	
R9	220K	
R10	33K	
R11	47K	
R12	1meg	
R13	220K	
R14	220K	
R15	33K	
R16	680Ω	
R17	470K	
R18	33K	
R19	2200Ω	

ITEM No.	RATING	REMARKS
R20	33K	
R21	22K	
R22	330K 1W	
R23	135Ω 5W	Pt. #GRW-567 IRC#PW5-135Ω
R24	330K 1W	
R25	15K	
R26	100K	
R27	1500Ω	
R28	220K	
R29	33K	
R30	47K	
R31	1meg	
R32	220K	
R33	220K	

ITEM No.	RATING	REMARKS
R34	33K	
R35	680Ω	
R36	470K	
R37	33K	
R38	2200Ω	
R39	33K	
R40	22K	
R41	330K 1W	
R42	330K 1W	
R43	135Ω 5W	Pt. #GRW-567 IRC#PW5-135Ω
R44	22K	
R45	4700Ω	
R46	100Ω 1W	
R47	270K	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	ANDREA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	117V @ 1.2A	580VCT @ .180A	5V @ 3A	ST-3113					
	SEC. 3	SEC. 4	SEC. 5						
	6.3VCT @ 4.4A								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ANDREA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	6500ΩCT	3-4Ω	ST-3076-2	A-2901	A-3823	24S07	S-53X	
T3	6500ΩCT	3-4Ω	ST-3076-2	A-2901	A-3823	24S07	S-53X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	ANDREA PART No.	QUAM PART No.	
SP1	12"	PM	6-8Ω	SL-4049	12A4AZ6.2	
SP2	6"	PM	6-8Ω	SL-4034-1	6A3IZ6.4	
SP3	3½"	PM	3-4Ω	SL-4033	3A15TZ3.4	
SP4	12"	PM	6-8Ω	SL-4035-1	12A4AZ6.2	
SP5	6"	PM	6-8Ω	SL-4034-1	6A3IZ6.4	
SP6	3½"	PM	3-4Ω	SL-4033	3A15TZ3.4	

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA								NOTES
	ANDREA PART No.		ASTATIC PART No.		ELECTRO-VOICE PART No.		SONOTONE PART No.		
	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	
M1	FM-5554	FM-5554-1 * and FM-5554-2	13TBX	Not Req.	26SD	Not Req.	8TA4-SD	N-8TA-SD *	

MISCELLANEOUS

ITEM No.	PART NAME	ANDREA PART No.	NOTES
M2	Switch	FM-5613	Selector (Rotary Wafer Type)
M3	Switch	FM-5614	Power Auto-Manual
M4	Switch		Changer Off-On (Part of Changer)
M5	Motor		Phono Drive (Part of Changer)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

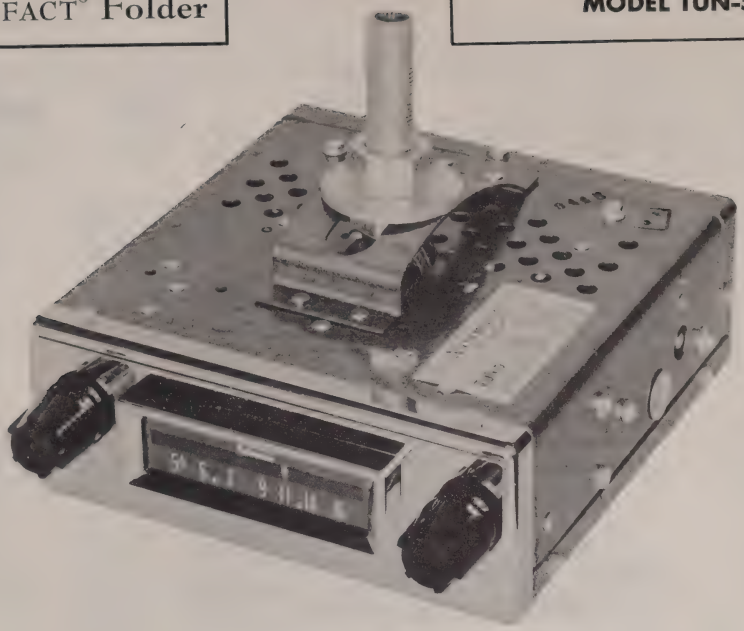
NAME	PART NO.	DESCRIPTION
Knob	FM-5624	All Controls

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors
Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting) ..... Use BELDEN No. 8401
Phono Pick-up Arm Cable ..... Use BELDEN No. 8430 (Two Conductor - Twisted)

PHOTOFACT® Folder

**AUTOMATIC
MODEL TUN-5**



TRADE NAME	Automatic Model TUN-5
MANUFACTURER	Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston 15, Mass.
TYPE SET	Battery Operated 4 Tube - 1 Transistor Universal Type Automobile AM Receiver
POWER SUPPLY	12 Volt Storage Battery
TUNING RANGE—BROADCAST	538 — 1610KC RATING 1.6 Amp. @12.6 Volts DC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools: A1 thru A4...GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A5, A6.....GENERAL CEMENT #5000, 5003, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	265KC (400~ Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	"	1610KC	"	"	A5	"
3.	Thru dummy (Fig. 1) to antenna receptacle.	"	1610KC Signal.	"	A6, A7	"
4.	With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.					

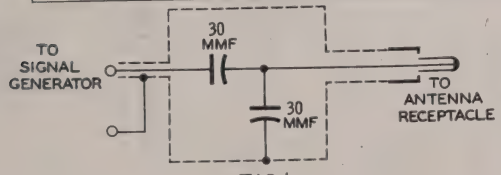
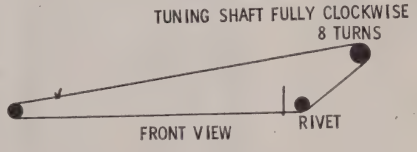


FIG 1



HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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KL257

DATE 12—60 SET 510 FOLDER 7

AUTOMATIC
MODEL TUN-5

AUTOMATIC
MODEL TUN-5

SET 510 FOLDER 7

SET 510 FOLDER 7

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (• GENERAL ELECTRIC • RAYTHEON • SYLVANIA •)
V1	RF Amplifier	12BL6 (12AF6) *
V2	Converter	12AD6
V3	IF Amplifier	12BL6 (12AF6) *
V4	Det. -AVC-AF Amp.	12DL8

* Alternate

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA: RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	NOTES
X1	2N669 *	Output				PNP Note 1

* Alternate Type 4347 or equivalent.

Note 1. When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING: CAP.	RATING: VOLT.	REPLACEMENT DATA: AUTOMATIC PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	■500	15	20-317	AFH3-00-95	B0040	WP200.6		TVLS-2157 *	
B	▲500	15							
C2	750	3	20-757	SRE3V500	BR1000-6	PETA190	TD-1000-6	TVAS-1097 *	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3		#28-800-2						
C4	51	Note 1	DI-50	DD-510	L10Q51	CCTO-510	GP450	10TS-Q50
C5	40 NPO		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C6	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C7		#28-400-2						
C8	5	† (12)	NPO-DI 5.0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C9	40		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C10		#28-461						
C11	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C12	27		DI-27	DD-270	L10Q27	CCD-270	GP427	10TS-Q27
C13	.01 200V		P288N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C14	3300	Note 1	BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33

Note 1. Not used in some versions.
† Alternate Value.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AUTOMATIC PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1meg	½	80A1240	AB-70				Volume
B	Shaft			AK-8				
C	Bushing			AK-31				
D	Switch			KR-4				Power Off-On

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

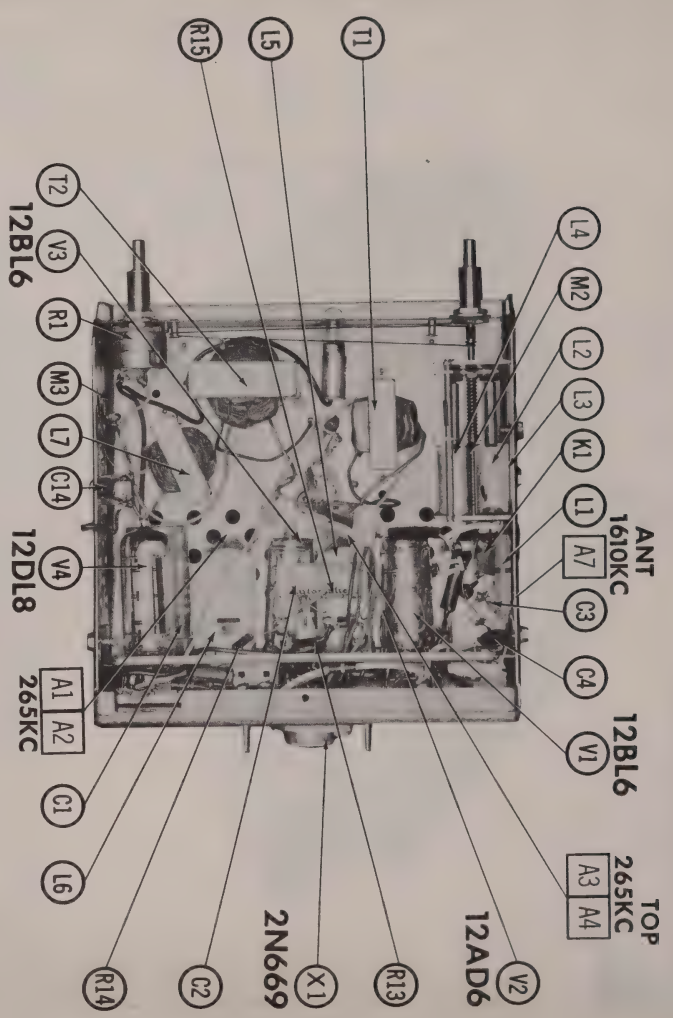
ITEM No.	RATING	REMARKS
R2	330Ω	
R3	4.7meg	
R4	1.2meg	
R5	2.2meg	
R6	47K	

ITEM No.	RATING	REMARKS
R7	10meg	
R8	10meg	
R9	330Ω	
R10	3.3meg	
R11	560Ω	

ITEM No.	RATING	REMARKS
R12	47Ω	
R13	22Ω	
R14	330Ω	Note 1
R15	1.0Ω 1W	
R16	150K	

Note 1. Some versions may use a 500Ω control in this application (Part #62-501).

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	AUTOMATIC PART No.	REPLACEMENT DATA
K1	Antenna Filter	100mmf, 1.2meg	89-4204	Sprague PRC-9

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		AUTOMATIC PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	RF Choke	75A601 ①	BC-565	4610	RTC-8520	6.2uh
L2	Ant. Coil	②				
L3	RF Coil	②				
L4	Osc. Coil	②				
L5	Input IF Trans.	14-268X	BC-350	12-H1	RTC-8638	
L6	Output IF Trans.	14-269X	BC-354	12-H6	RTC-8640	

① IRC Part #CL-1 .
② Part of Tuner assembly M2.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ∿)	AUTOMATIC PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L7	1.6A	.5Ω	.0014 HY	75A1269					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	AUTOMATIC PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	5.5	1	75A1264					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
	PRI.	AUTOMATIC PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	20Ω Tap ⓐ 3-4Ω	75A1270A					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	AUTOMATIC PART No.	QUAM PART No.	
SP1	5"	PM	3-4Ω	73A1275	5A07R	

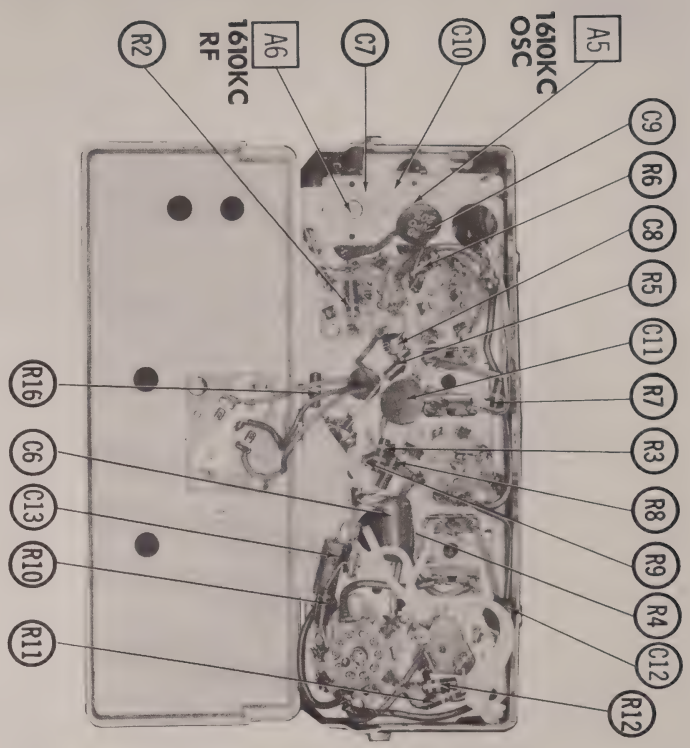
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			AUTOMATIC PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7/8A 32V			30707.5 (SFE 7/8A 32V)	155009	SFE 7/8	HDH

MISCELLANEOUS

ITEM No.	PART NAME	AUTOMATIC PART No.	NOTES
M2	Tuner	78A1232	Complete (Manual)
M3	Spark Plate		

CHASSIS—END VIEW



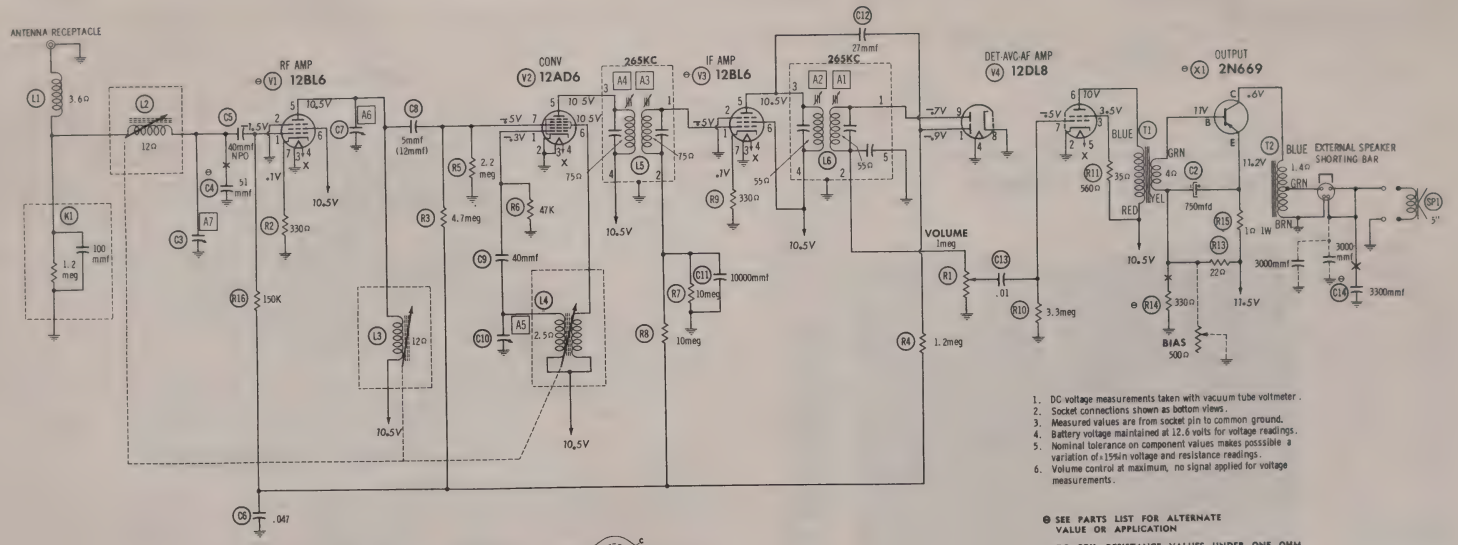
CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	47A1235	Tuning, Volume
Knob	47A1249	Spacer

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8661



1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

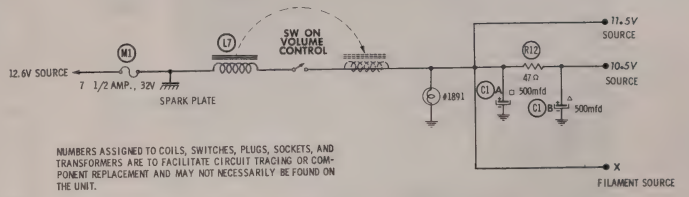
⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BL6	6.1meg	0Ω	0Ω	.1Ω	60Ω	47Ω	380Ω		
V2	12AD6	47K	0Ω	0Ω	.1Ω	120Ω	47Ω	2meg		
V3	12BL6	8meg	0Ω	0Ω	.1Ω	100Ω	47Ω	330Ω		
V4	12DL8	7.2meg	0Ω	600Ω	0Ω	.1Ω	80Ω	3.3meg	0Ω	1meg

TRANSISTOR CIRCUIT RESISTANCE FOR X1 NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.



NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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AUTOMATIC
MODEL TUN-5

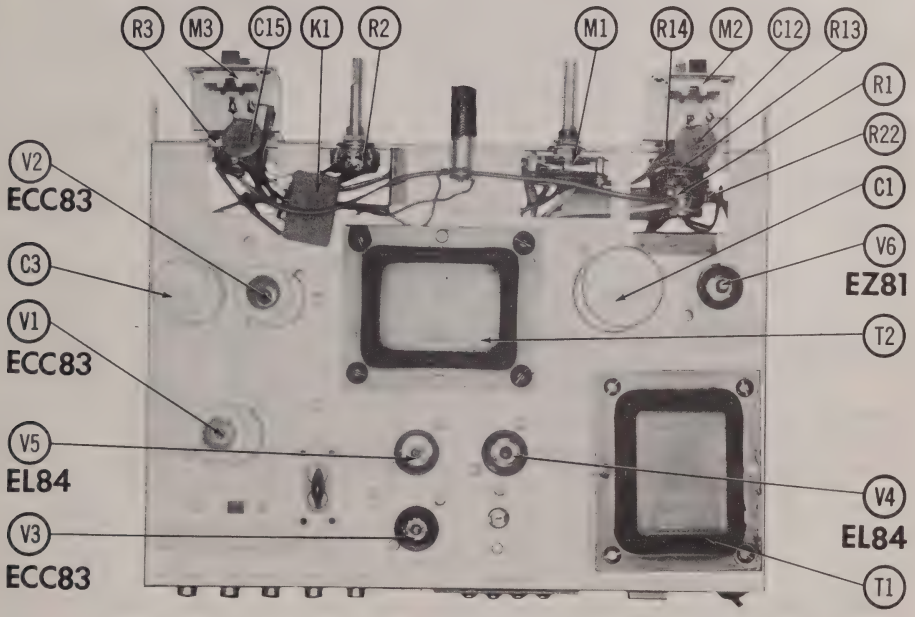
PHOTOFACT® Folder

CHANNEL MASTER MODEL 6620

CHANNEL MASTER
MODEL 6620

CHANNEL MASTER
MODEL 6620

TRADE NAME	Channel Master Model 6620
MANUFACTURER	Channel Master Corp., Ellenville, N. Y.
TYPE SET	AC Operated 6 Tube Audio Amplifier
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles RATING 83 Watts, .77 Amp. @117 Volts AC



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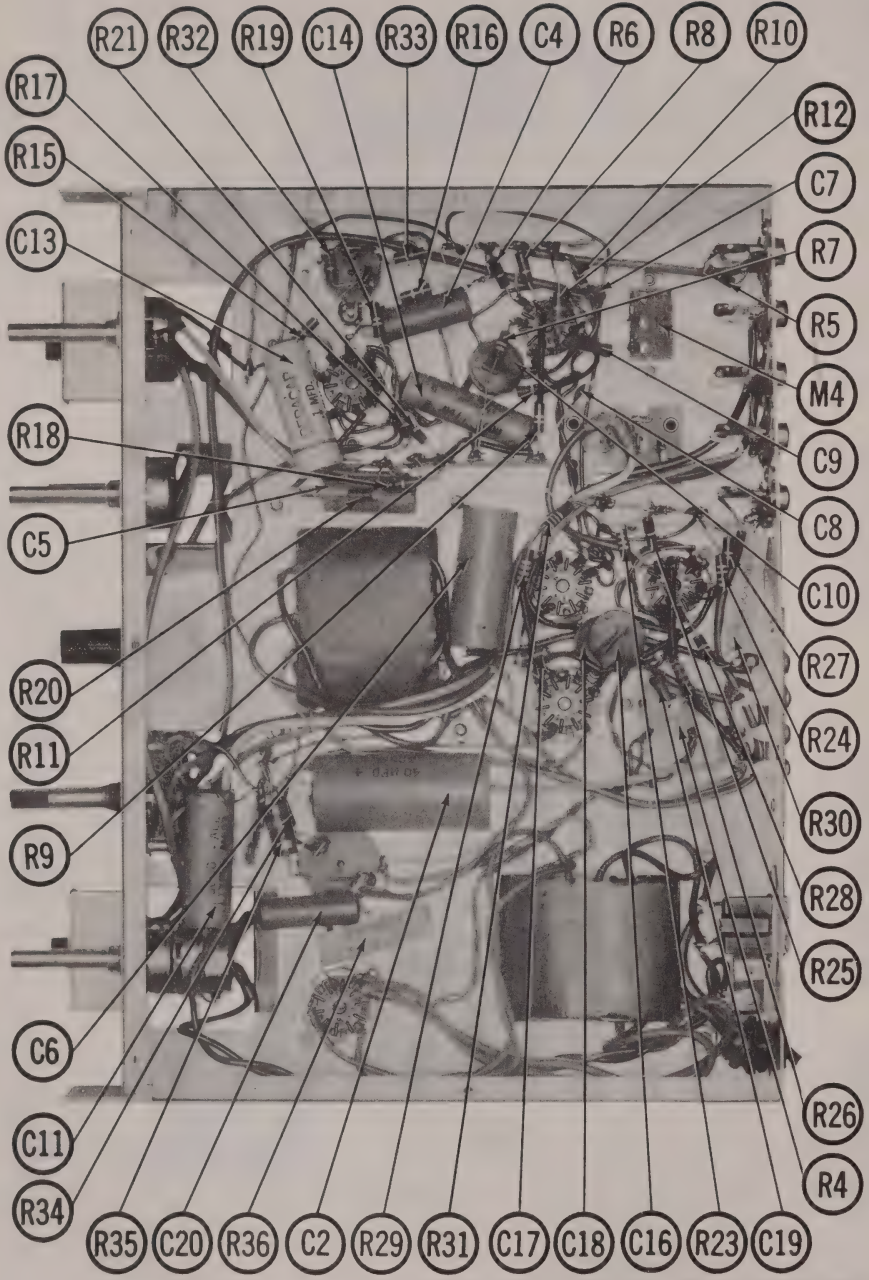


CHASSIS BOTTOM VIEW

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (GENERAL ELECTRIC • RAYTHEON • SYLVANIA)
V1	Preamplifier	ECC83/12AX7
V2	AF Amplifier	ECC83/12AX7
V3	AF Amp. -Phase Inv.	ECC83/12AX7
V4	Output	EL84/6BQ5
V5	Output	EL84/6BQ5
V6	Rectifier	EZ81/6CA4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA Channel Master PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	▲40	400	A517	AFH2-57	B0450	FP238	TMD-2480	TVL-2764	
B	▲40	350							
C2	40	350	A518	PRS1670	BR4035	TC78	TD-40-350	TVA-1611	
C3A	▲20	200	A519	AFH2-37	B0300	FP227	TMD-2295	TVL-2626	
B	■20	300							
C4	25	3	A501	SRE3V25	BBR25-3	TT3X25	TD-25-25	TE-1055	
C5	25	3	A501	SRE3V25	BBR25-3	TT3X25	TD-25-25	TE-1055	
C6	150	15	A503	PRS1370	BR1505	TC25015	TO-150-15	TE-1163	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	560 10%		DI-560	DD-561	5R5T56	CCD-561	GP356	10TS-T56
C8	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C9	2200 10%				PM6D22	CCD-222	GP222	10TS-D22
C10	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C11	.22 200V		P288N-22		CUB2P22	2DP-4-224	2TM-P22	2TM-P22
C12	5000 10%		DI-5000		PM6D5	CCD-502	JL-247	10TS-D50
C13	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C14	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C15	5000 10%		DI-5000		PM6D5	CCD-502	JL-247	10TS-D50
C16	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C17	100 10%	Note 1	NPO-SI 100	D6-101	L10T1	CCD-101	GP310	10TS-T10
C18	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	22		SI 22	D6-220	L10Q22	CCD-220	GP422	10TS-Q22
C20	.01 600V	Note 1	P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10

Note 1. Not used in some versions.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Channel Master PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	500K	½	E508	BT-67			FA55T15	Volume
	130K Tap							
B	500K	½		SR-59			RU55L	Volume
C	Shaft			Not Req.			CS3500	
D	Switch			KR-1			US-41	Power Off-On
R2A	1meg	½	E509	B-69	A47-1meg-S	Q11-137	U54	Bass
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R3A	500K	½	E510	BT-65	A47F5-500K	Q19-133X	UT-431	Treble
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
	200K Tap							
R4A	100Ω	2(WW)	E503	WN-101	A43-100	W11-084	RI00L	Hum Balance
B	Shaft			Not Req.	FKS-1/4	SK5	Not Req.	

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R5	47K	
R6	2.2meg	
R7	220K	
R8	2200Ω	
R9	150K	
R10	2.2meg	
R11	220K	
R12	2700Ω	
R13	100K	Note 1
R14	47K	
R15	100K	
R16	2700Ω	

ITEM No.	RATING	REMARKS
R17	220K	
R18	1meg	
R19	100K	
R20	1500Ω	
R21	680K	
R22	100K	Note 1.
R23	470K	Note 1
R24	470K	
R25	680Ω	
R26	33K	(15K) *
R27	100K	
R28	100K	

ITEM No.	RATING	REMARKS
R29	470K	
R30	150Ω 7W	Pt. #B521 IRC#PW10-150Ω
R31	470K	
R32	68K	
R33	12K	
R34	3300Ω	
R35	3300Ω 2W	(2700Ω) *
R36	150Ω 7W	Pt. #B521 IRC#PW10-150Ω

* Alternate, may be used in some versions.
Note 1. Not used in some versions.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Channel Master PART No.	REPLACEMENT DATA
K1	Tone Comp.		F526	Centralab PC-191

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA Channel Master PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V@ .77A	720VCT @. 090A	6.3V@ 3.4A	C502			24R04		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA Channel Master PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	7900Ω CT	16Ω Tap@ 8Ω, 4Ω	C503					

MISCELLANEOUS

ITEM No.	PART NAME	Channel Master PART No.	NOTES
M1	Switch	E512	Selector
M2	Switch	E514	Loudness Off-On (Slide Type SPDT)
M3	Switch	E514	Rumble Off-On (Slide Type SPDT)
M4	Switch	E513	Phono-Tape (Slide Type SPDT)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	F511	Loudness, Bass, Treble, Selector

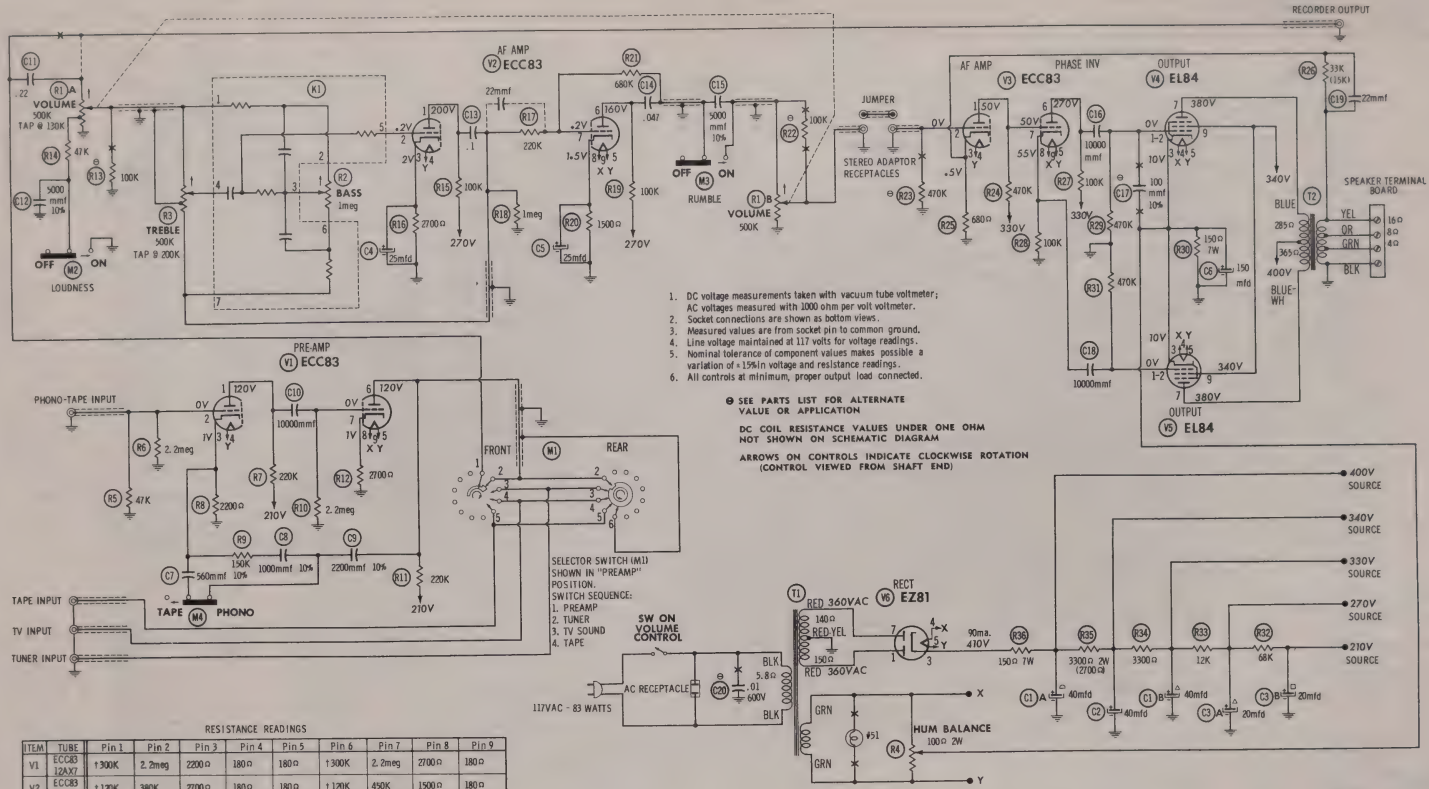
WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)

CHANNEL MASTER
MODEL 6620

FOLDER 8



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC83 12AX7	†300K	2.2meg	2200Ω	180Ω	180Ω	†300K	2.2meg	2700Ω	180Ω
V2	ECC83 12AX7	†120K	380K	2700Ω	180Ω	180Ω	†120K	450K	1500Ω	180Ω
V3	ECC83 12AX7	†470K	470K	680Ω	180Ω	180Ω	†100K	†470K	100K	180Ω
V4	EL84 6BQ5	NC	470K	150Ω	180Ω	180Ω	NC	†435Ω	NC	†3400Ω
V5	EL84 6BQ5	NC	470K	150Ω	180Ω	180Ω	NC	†515Ω	NC	†3400Ω
V6	EZ81 6DA4	150Ω	NC	¶	180Ω	180Ω	NC	140Ω	NC	NC

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
† MEASURED FROM PIN 3 OF V6. NC NO CONNECTION.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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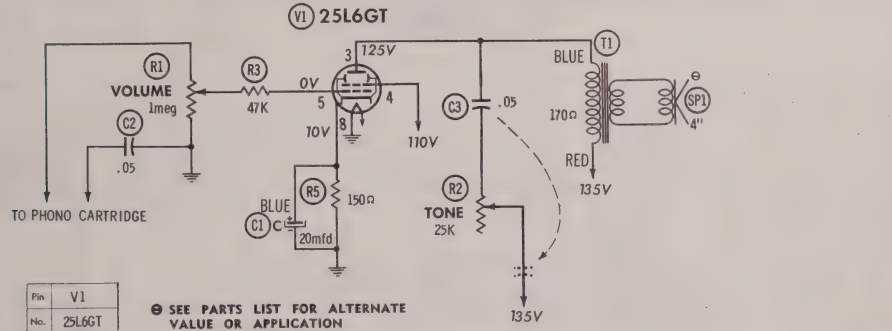
CHANNEL MASTER MODEL 6620

PHOTOFACT® Folder

DECCA MODEL DP-587

DECCA MODEL DP-587

TRADE NAME	Decca Model DP-587
MANUFACTURER	Decca Distributing Corp., 445 Park Ave., New York 22, N. Y.
TYPE SET	AC Operated One Tube Phono Amplifier With 3 Speed Manual Record Player
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles RATING 35 Watts, .4 Amp. @117 Volts AC



Pin No.	V1
1	NC
2	45Ω
3	†200Ω
4	†9200Ω
5	47K
6	TP
7	0Ω
8	150Ω

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

† MEASURED FROM OUTPUT OF M1.
NC NO CONNECTION TP TIE POINT

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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DECCA MODEL DP-587

SET 510 FOLDER 9

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KR275

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
	◆ GENERAL ELECTRIC ◆		RAYTHEON ◆	SYLVANIA ◆	
V1	Output	25L6GT			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA DECCA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	40	150	EC-71	PRS3625	BBRT43215	TCT3105	TDLT-3	TVA-3448	
B	30	150							
C	20	150							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	.05 400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S5
C3	.05 400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S5

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA DECCA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1meg	½	VC-70	B-70-S	A47-1meg-Z	Q13-137	U53	Volume
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
C	Switch			Not Req.	SWE-12	76-1	US-26	
R2A	25K	½	VC-71	B-26	A47-25K-S	Q11-120	U29	Tone
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R3	47K	
R4	9100Ω	

ITEM No.	RATING	REMARKS
R5	150Ω	
R6	33Ω	

ITEM No.	RATING	REMARKS

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA DECCA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	2500Ω	3-4Ω	(Part of SP1)	A-3025	A-3332	24S53	S-12X	

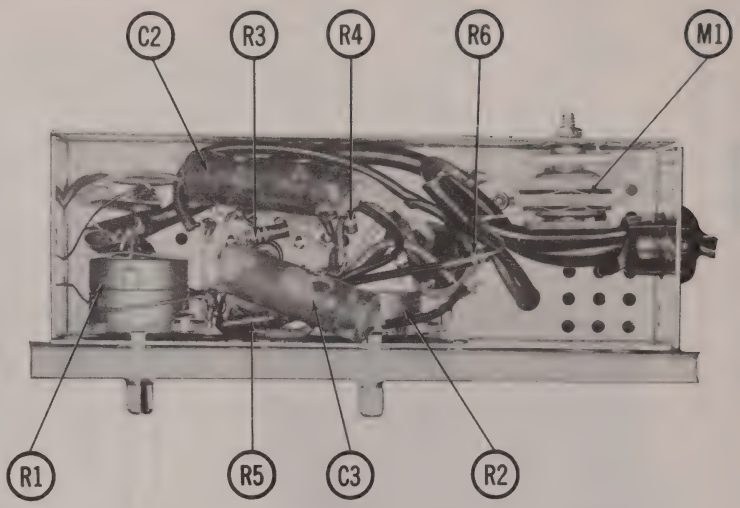
SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA DECCA PART No.	QUAM PART No.	NOTES
SP1	4"	PM	3-4Ω	SPK-23A *	4A07	* Includes T1. Alternate Part #SPK-22A

RECTIFIERS

ITEM No.	RATING CURRENT (Measured)	REPLACEMENT DATA DECCA PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	NOTES
M1	.040A	SR-3 *		1N1763 ♦	65A *	SR200 ♦	* Selenium Type ♦ Silicon Type

CHASSIS—BOTTOM VIEW



PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	DECCA PART No. CARTRIDGE	DECCA PART No. NEEDLE*	ASTATIC PART No. CARTRIDGE	ASTATIC PART No. NEEDLE*	ELECTRO-VOICE PART No. CARTRIDGE	ELECTRO-VOICE PART No. NEEDLE*	SONOTONE PART No. CARTRIDGE	SONOTONE PART No. NEEDLE*	NOTES
M2	PU-25 †	Not Req.	420TS-TB KR-314-T †	N8-1 * & N8-3 *	46T	Not Req.			† Includes Tone Arm

MISCELLANEOUS

ITEM No.	PART NAME	DECCA PART No.	NOTES
M3	Motor Idler Wheel		Turntable Drive Waisco Part #1433

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (6 Ft. Length) 1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor - Twisted)

PHOTOFACT® Folder with CIRCUITRACE®

**LINMARK
MODEL T-80**

LINMARK
MODEL T-80

LINMARK
MODEL T-80

TRADE NAME	Linmark Model T-80
IMPORTER	Shriro, Inc., 276 Fourth Ave., New York 10, N. Y.
TYPE SET	Battery Operated Transistorized Portable AM Receiver
POWER SUPPLY	3 Volts DC
RATING	20MA @ 3 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	540 — 1600KC
	25MA @ 3 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment tools: A1, A2, A3, A5.. GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537
A4, A6..... GENERAL CEMENT #5000, 5003, 5066, 8271, 8272, 8276, 8277, 8290, 8609, 8722, 9150, 9298
WALSCO #2515, 2516, 2518, 2519, 2525, 2541

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Loop	455KC (400∿ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4	"
3.	"	600KC	600KC	"	A5	"
4.	"	1400KC	1400KC Signal.	"	A6	Adjust for maximum output. Repeat Steps 2, 3 and 4.

SET 510 FOLDER 10

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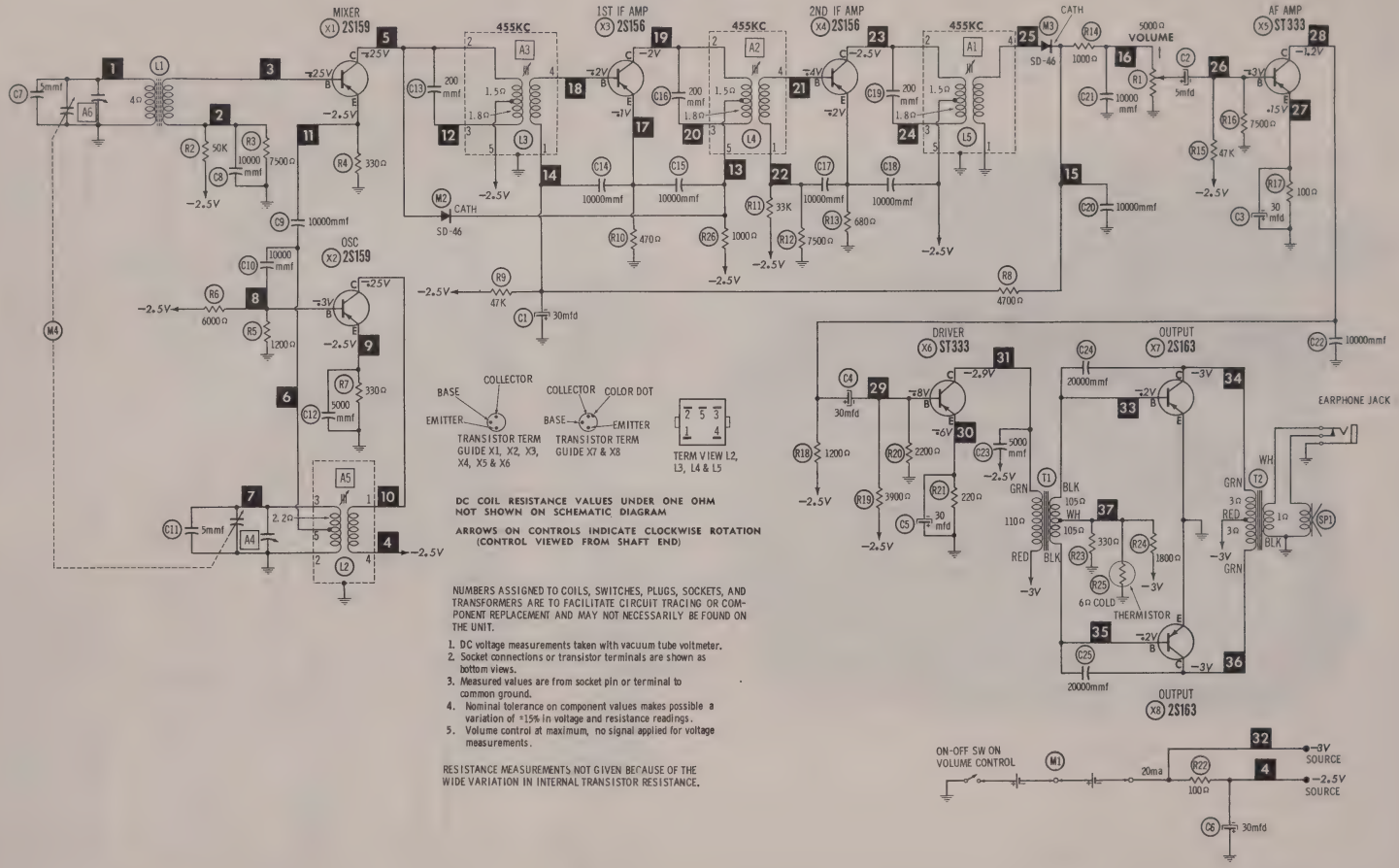

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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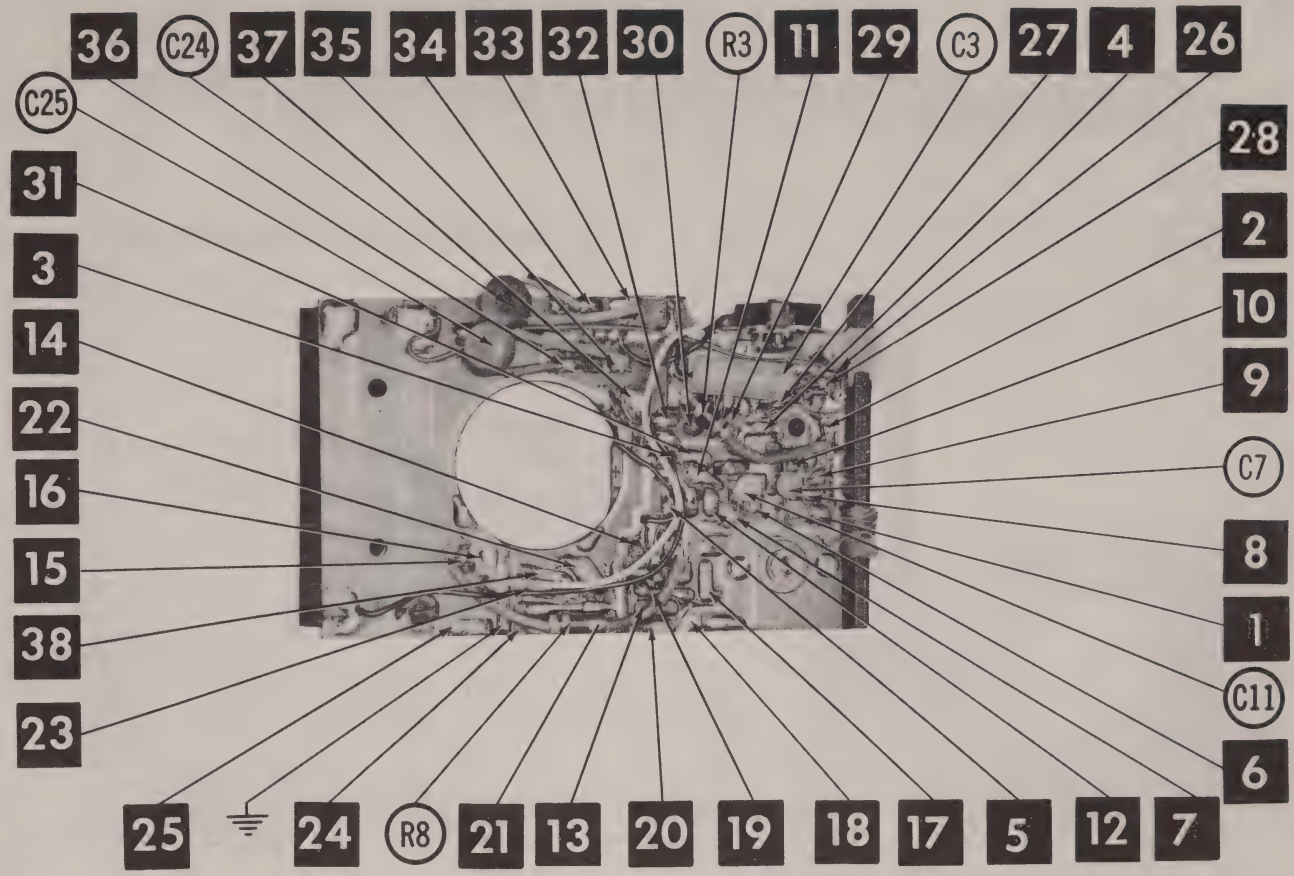
LINMARK MODEL T-80



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PRINTED BOARD

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2S159	Mixer				PNP
X2	2S159	Oscillator				PNP
X3	2S156	1st IF Amplifier				PNP
X4	2S156	2nd IF Amplifier				PNP
X5	ST333	AF Amplifier	2N406			PNP
X6	ST333	Driver	2N406			PNP
X7	2S163	Output	2N408			PNP
X8	2S163	Output	2N408			PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	LINMARK PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1	30	6		PTT6030	NLW30-6	TT6X30	ML30-6	TE-1092	
C2	5	6		PTT-6005	NLW5-6	TT6X5	ML5-6	TE-1084	
C3	30	3		PTT-3030	NLW30-6	TT6X30	ML30-6	TE-1092	
C4	30	6		PTT6030	NLW30-6	TT6X30	ML30-6	TE-1092	
C5	30	6		PTT6030	NLW30-6	TT6X30	ML30-6	TE-1092	
C6	30	6		PTT6030	NLW30-6	TT6X30	ML30-6	TE-1092	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	EMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	5		NPO-DI 5.0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C8	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C9	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C10	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C11	5		NPO-DI 5.0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C12	5000		C80V502AM	DM-502	H-05D5		TA-250	TG-D50
C13	200		C80V220AM	DM-201	L10T2	CCD-201	GP320	10TS-T20
C14	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C15	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C16	200		C80V220AM	DM-201	L10T2	CCD-201	GP320	10TS-T20
C17	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C18	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C19	200		C80V220AM	DM-201	L10T2	CCD-201	GP320	10TS-T20
C20	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C21	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C22	10000		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C23	5000		C80V502AM	DM-502	H-05D5		TA-250	TG-D50
C24	20000		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C25	20000		C80V203AM	DA-203	H-05S2		TA-120	TG-S20

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	LINMARK PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	5000Ω	1/4		B16-214				Volume & Switch

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R2	50K	
R3	7500Ω	
R4	330Ω	
R5	1200Ω	
R6	6000Ω	
R7	330Ω	
R8	4700Ω	
R9	47K	
R10	470Ω	

ITEM No.	RATING	REMARKS
R11	33K	
R12	7500Ω	
R13	680Ω	
R14	1000Ω	
R15	47K	
R16	7500Ω	
R17	100Ω	
R18	1200Ω	
R19	3900Ω	

ITEM No.	RATING	REMARKS
R20	2200Ω	
R21	220Ω	
R22	100Ω	
R23	330Ω	
R24	1800Ω	
R25	6Ω Cold	
R26	1000Ω	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		LINMARK PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Loopstick					
L2	Osc. Coil					
L3	1st IF Trans.					
L4	2nd IF Trans.					
L5	3rd IF Trans.					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LINMARK PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1	1	320950					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LINMARK PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	80Ω CT	6-8Ω	320951		TA-19			

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	LINMARK PART No.	QUAM PART No.	
SP1	2 1/4"	PM	6-8Ω			

BATTERIES

ITEM No.	VOLTAGE	LINMARK PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V	UM-3A *		930 *		1015 *		M-15R *	* 2 Required

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		LINMARK PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M2	SD-46		1N60	1N60	AGC (Pigtail)
M3	SD-46		1N60	1N60	Detector (Pigtail)

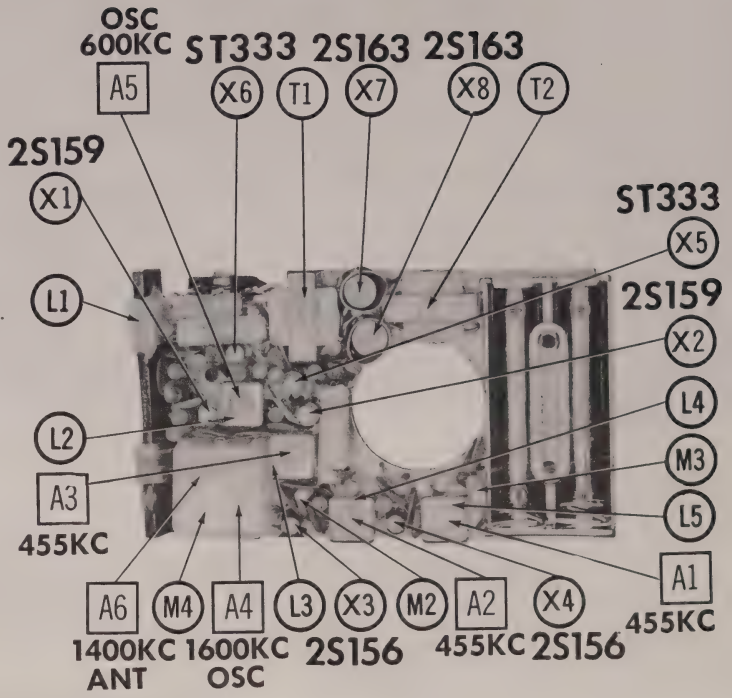
MISCELLANEOUS

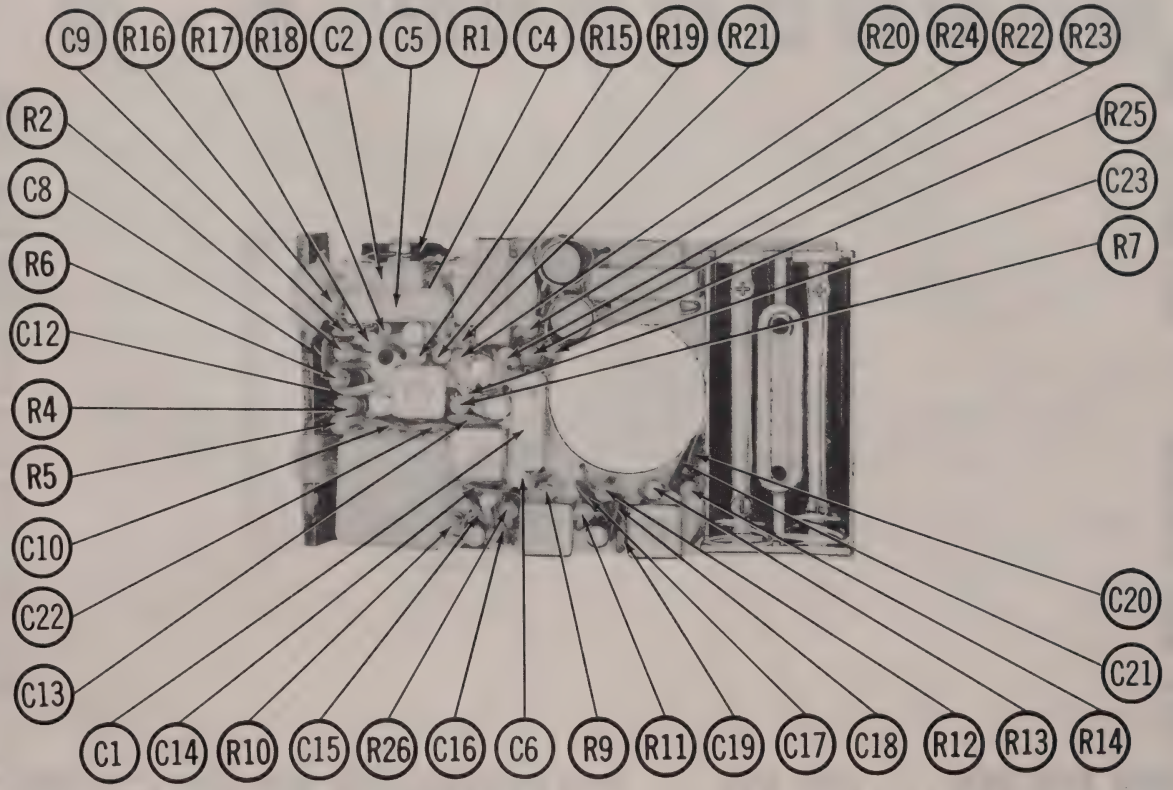
ITEM No.	PART NAME	LINMARK PART No.	NOTES
M4	Tuning Cap.		2 Gang

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—TOP VIEW





PRINTED BOARD TOP VIEW-CAPACITOR & RESISTOR IDENT.

PHOTOFACT® Folder with CIRCUITRACE®

MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

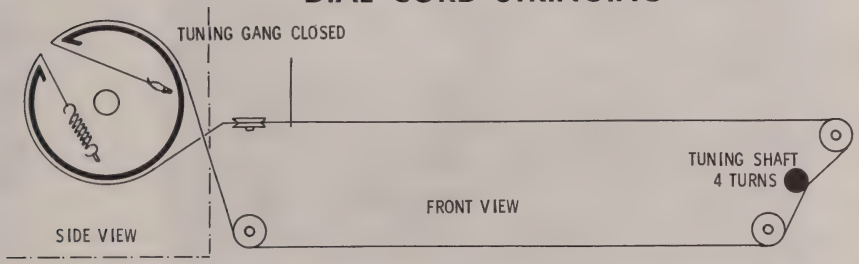
REPRESENTATIVE MODEL USING
CHASSIS 61-01, 82-01-00, 700782-3

MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

TRADE NAME	Magnavox Chassis	61-01 (FM-AM Tuner) 700832-1 (Tuner Power Supply) 82-01-00 (Audio Amplifier) 700842-1 (Remote Control Receiver) 700782-3 (Remote Control Transmitter)
MANUFACTURER	The Magnavox Co., Fort Wayne 4, Indiana	
TYPE SET	AC Operated 13 Tube FM-AM Tuner - Power Supply, 12 Tube Stereo Amplifier, 5 Tube Remote Control Receiver, Transistorized Remote Control Transmitter, and 4 Speed Automatic Record Changer	
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles	
RATING	500 Watts, 4.6 Amp. @117 Volts AC (Total, With Tuning and Volume Motors Operating) 465 Watts, 4.3 Amp. @117 Volts AC (Total, Motors Not Operating) 62 Watts, .5 Amp. @117 Volts AC (Tuner and Power Supply) 190 Watts, 1.8 Amp. @117 Volts AC (Each Amplifier) 25 Watts, .2 Amp. @117 Volts AC (Remote Receiver) .013 Amp. @22.5 Volts DC (Remote Transmitter)	

FOR SERVICE INFORMATION ON RECORD CHANGER —SEE COLLARO CONQUEST (REVISED) — PHOTOFACT SET 408 FOLDER 6 OR RECORD CHANGER MANUAL RC-11

DIAL CORD STRINGING



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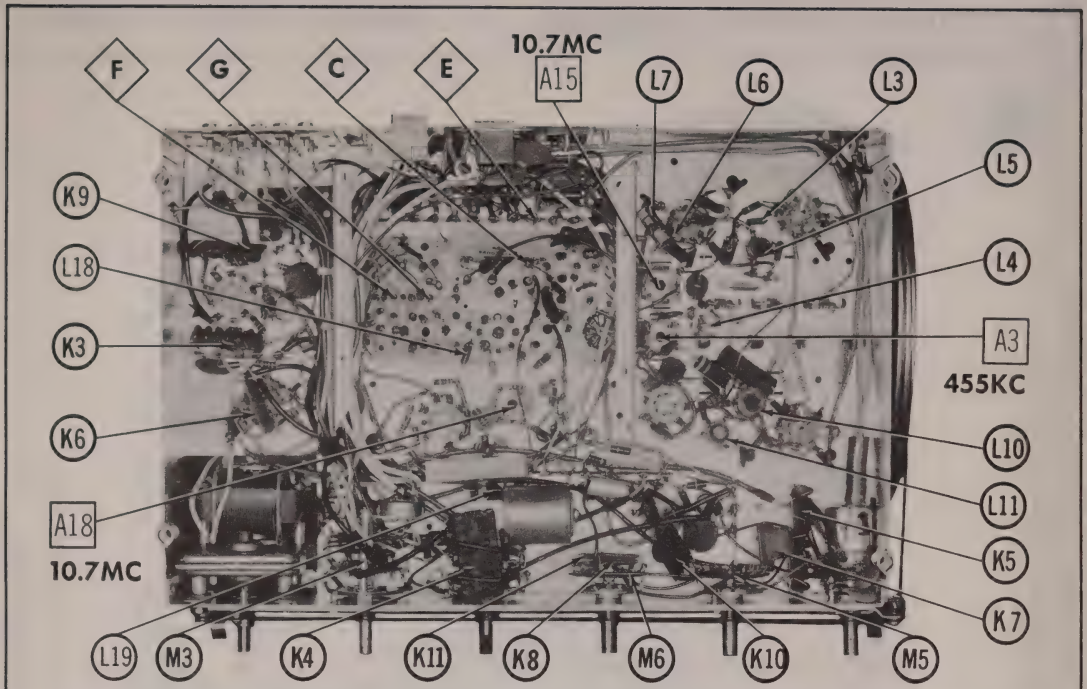
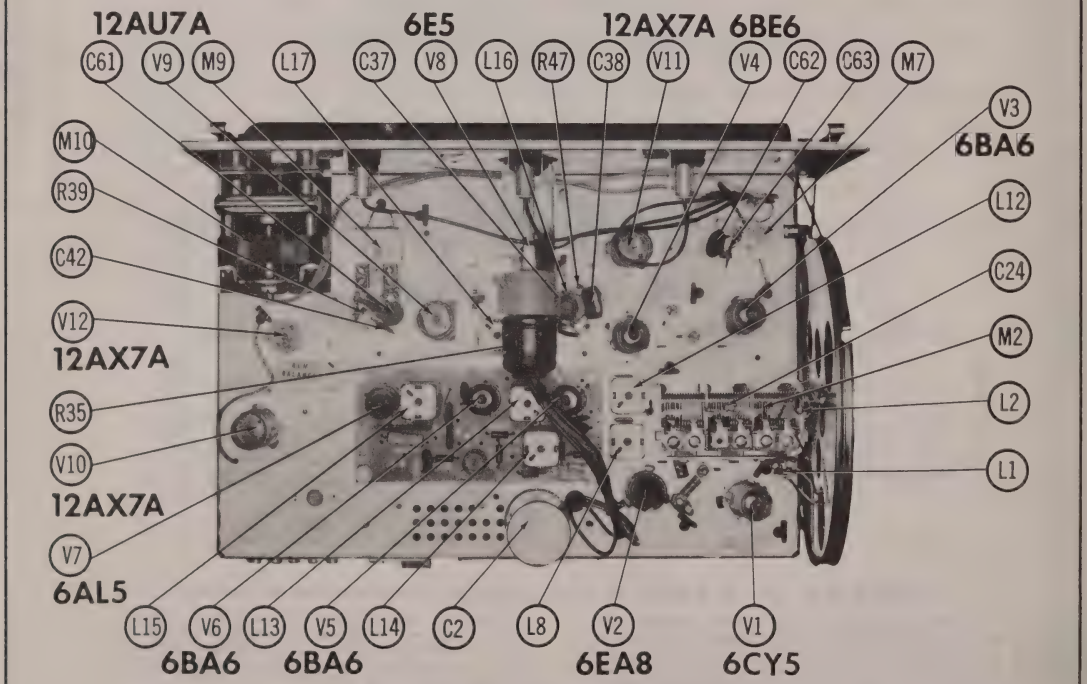
KN212

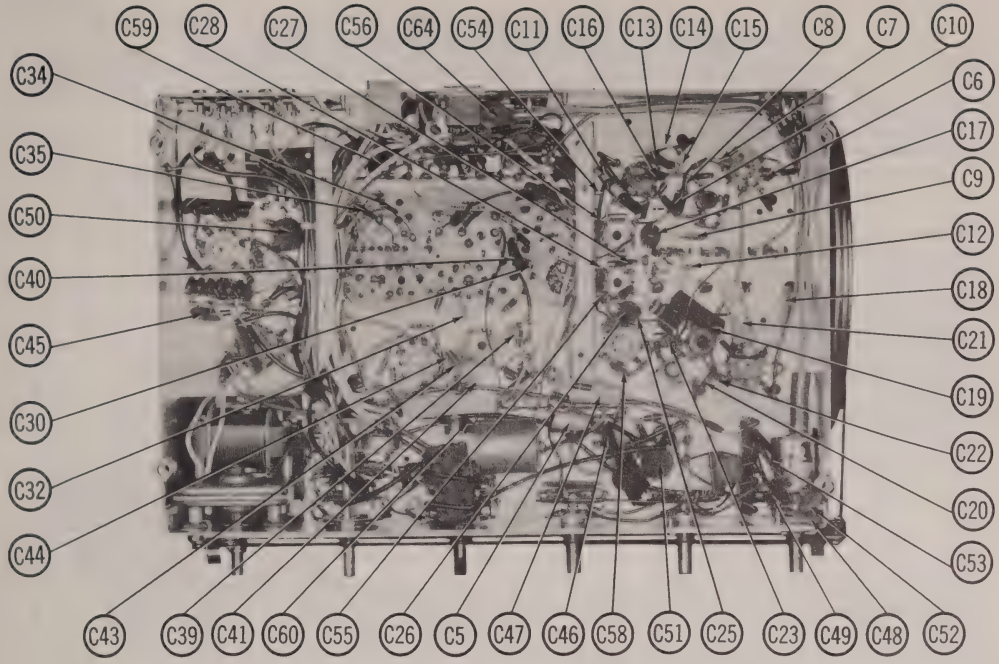
SET 510 FOLDER 11



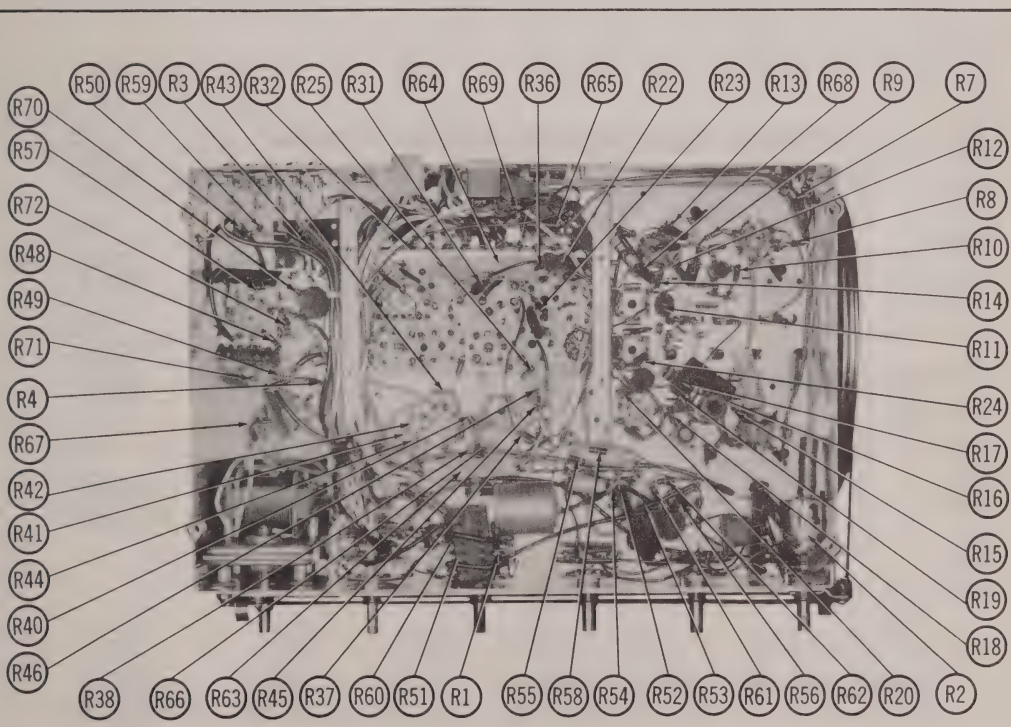
TUNER CHASSIS BOTTOM VIEW - ALIGNMENT, INDUCTOR & MISC. IDENT.



TUNER CHASSIS TOP VIEW



TUNER CHASSIS BOTTOM VIEW - CAPACITOR IDENT.



TUNER CHASSIS BOTTOM VIEW - RESISTOR IDENT.

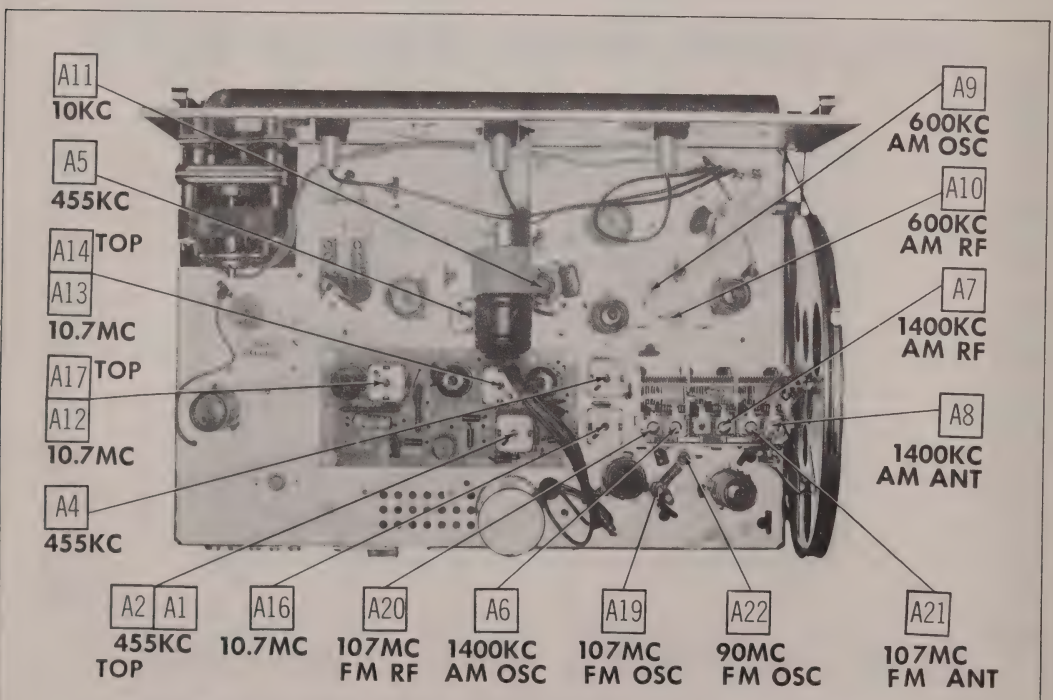
AM ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Connect a clip lead from point Ⓐ to point Ⓑ.
Check dial pointer position.
Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:
A1 thru A5, A12 thru A18 . . GENERAL CEMENT #5097, 8727
WALSCO #2515
A6, A7, A8, A11, A20, A21 . . . GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520
A9, A10, A19, A22 . . . . . GENERAL CEMENT #8721, 8722
WALSCO #2519
A23, A27 . . . . . GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528
A25, A26 . . . . . GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545

AM ALIGNMENT—SELECTOR IN AM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru .01mfd to pin 7 (grid) of AM Converter. Low side to chassis.	455KC (Unmod.)	(AM) Point of non-interference near 1000KC.	DC probe to point Ⓒ. Common to chassis.	A1, A2, A3, A4	Adjust for maximum deflection.
2.	"	"		DC probe to pin 3 (cathode) of Trigger tube. Common to chassis.	A5	Connect a 6800Ω 1-watt resistor from point Ⓓ to point Ⓔ. Momentarily short pin 1 (plate) of Trigger to chassis through a 10K resistor to energize the search relay. Adjust for MINIMUM deflection on the VTVM. Remove the 6800Ω resistor.
3.	High side thru 10K to AM antenna terminals. Low side to chassis.	1400KC	1400KC	DC probe to point Ⓒ. Common to chassis.	A6, A7, A8	Adjust for maximum deflection.
4.	"	600KC	600KC	"	A9, A10	Adjust for maximum deflection. Repeat Steps 3 and 4.
5.	"	600KC (10KCMod.)	600KC Signal.	AC probe across Ch. 1 output jack.	A11	Adjust for MINIMUM deflection.



TUNER CHASSIS TOP VIEW—ALIGNMENT IDENT.

FM ALIGNMENT INSTRUCTIONS

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM—SELECTOR IN FM POSITION

Detune A18 by turning slug counterclockwise (from bottom).

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
6.	High side thru .01mfd to pin 2 (grid) of FM Mixer. Low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference near 90MC.	DC probe thru 1meg to point (F). Common to chassis.	A12, A13, A14, A15, A16	Adjust for maximum deflection.
7.	"	"	"	DC probe to point (G). Common to chassis.	A17	Adjust for zero reading. A positive and negative will be obtained on either side of the correct setting.
8.	"	"	"	DC probe to pin 3 (cathode) of Trigger tube. Common to chassis.	A18	Adjust generator output to produce -3 volts from point (F) to chassis. Connect a 6800Ω resistor from point (D) to point (E). Momentarily short pin 1 (plate) of Trigger tube to chassis thru a 10K resistor to energize relay. Adjust A18 for MINIMUM deflection on VTVM.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE—SELECTOR IN FM POSITION

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.
Preset A18 by turning slug counterclockwise (from bottom).

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
6.	High side thru .01mfd to pin 2 (grid) of FM Mixer. Low side to chassis.	107MC (450KC Swp)	(FM) Point of non-interference near 90MC	Vert. amp. to point (F). Low side to chassis.	A12, A13, A14, A15, A16	Disconnect stabilizing capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown. Reconnect C4.
7.	"	"	"	Vert. amp. to point (G). Low side to chassis.	A17	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A12 for maximum amplitude and straightness of cross-over lines.
8.	"	"	"	Vert. amp. thru .1mfd to pin 1 (plate) of Trigger tube. Low side to chassis.	A18	Connect a 6800Ω resistor from point (D) to point (E). Momentarily short pin 1 (plate) of Trigger tube to chassis thru 10K to energize relay. Adjust A18 for maximum gain similar to Fig. 3.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
9.	Across FM antenna terminals with 120Ω in each lead.	107MC (Unmod.)	(FM) 107MC	DC probe thru 1meg to point (F). Common to chassis.	A19, A20, A21	Adjust for maximum deflection.
10.	"	90MC	90MC	"	A22	Adjust for maximum deflection. Repeat Steps 9 & 10.

FIG. 1

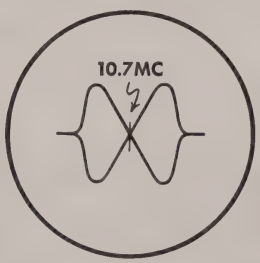
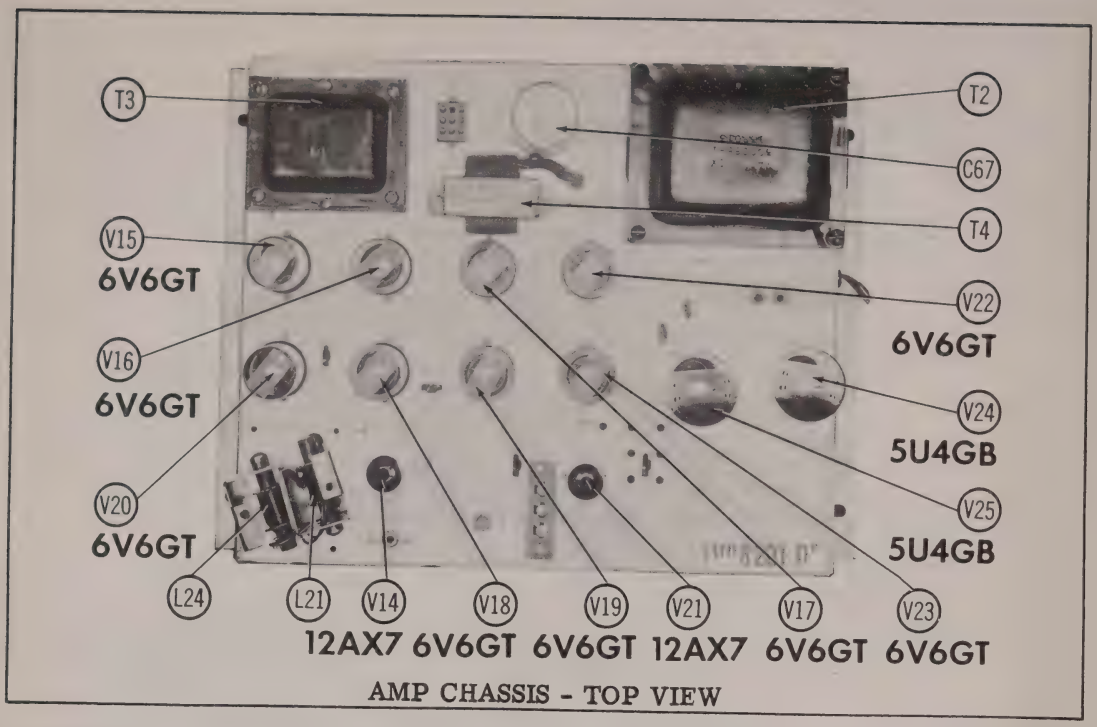


FIG. 2

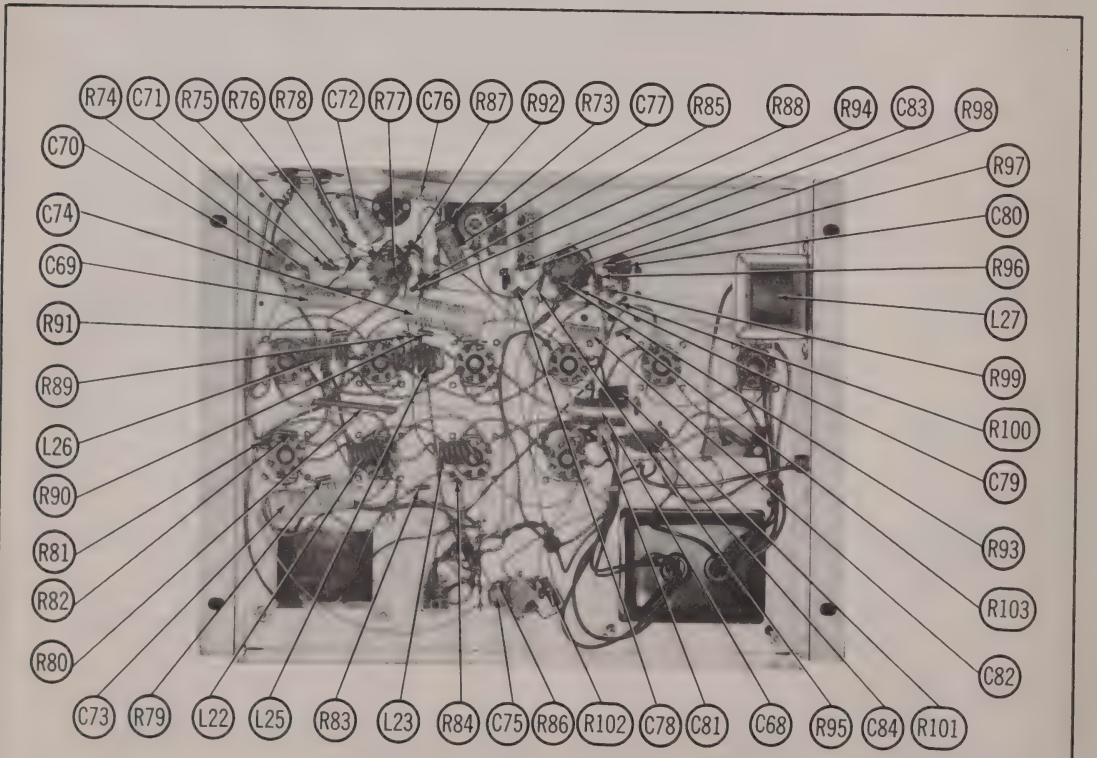
FIG. 3

MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

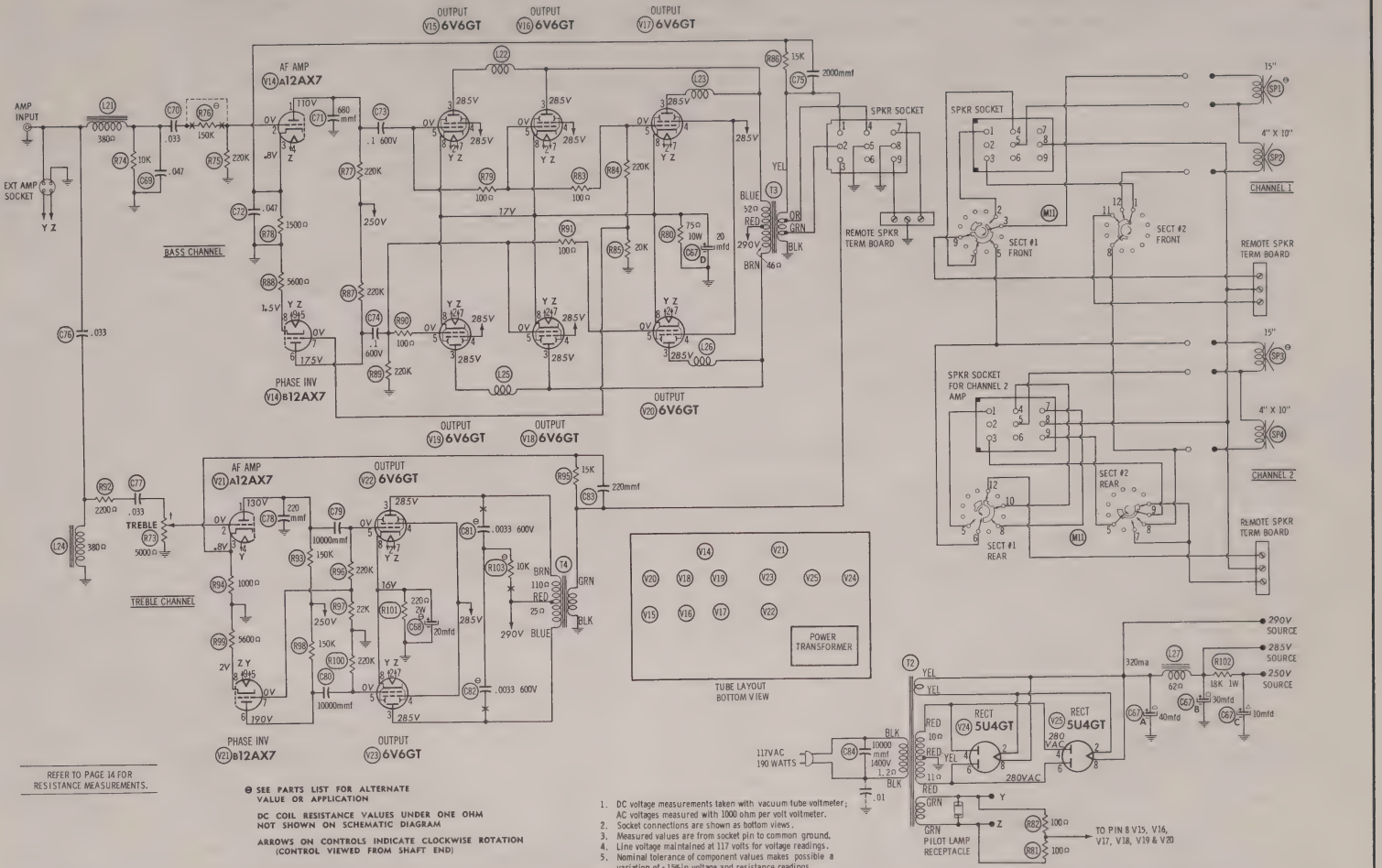
FOLDER 11



AMP CHASSIS - TOP VIEW



AMP CHASSIS - BOTTOM VIEW



REFER TO PAGE 14 FOR RESISTANCE MEASUREMENTS.

Θ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

AMP SCHEMATIC

MAGNAVOX CHASSIS 61-00

AMP PARTS LIST AND DESCRIPTIONS

TUBES

• GENERAL ELECTRIC • RAYTHEON • SYLVANIA •

ITEM No.	USE	TYPE
V14	Bass Channel AF Amp. - Phase Inv.	12AX7
V15	Bass Channel Output	6V6GT
V16	Bass Channel Output	6V6GT
V17	Bass Channel Output	6V6GT
V18	Bass Channel Output	6V6GT
V19	Bass Channel Output	6V6GT
V20	Bass Channel Output	6V6GT
V21	Treble Channel AF Amp. - Phase Inv.	12AX7
V22	Treble Channel Output	6V6GT
V23	Treble Channel Output	6V6GT
V24	Rectifier	5U4GB
V25	Rectifier	5U4GB

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C67A	▰40	450	270021-56	AFH4-78	D0640	FP429	TMQ-4544	TVL-4734	
B	■30	450							
C	▲10	450							
D	20	25							
C68	20	25	270027-28	SRE25V20	NLW20-25	TT25X20	ML20-25	TE-1206	Note 1

Note 1. Some versions may use Part #270027-56.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C69	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C70	.033 200V		P288N-033	DD-303	CUB6S33	4DP-2-333	GEM-4133	6TM-S33
C71	680		BPD-00068	DD-681	BYA10T68	CCD-681	B-368	10TS-T68
C72	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C73	.1 600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C74	.1 600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C75	2000		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C76	.033 200V		P288N-033	DD-303	CUB6S33	4DP-2-333	GEM-4133	6TM-S33
C77	.033 200V		P288N-033	DD-303	CUB6S33	4DP-2-333	GEM-4133	6TM-S33
C78	220		D1-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C79	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C80	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C81	.0033 600V	Note 1	P688N-0033	D6-332	CUB6D33	6DP-1-332	GEM-6233	6TM-D33
C82	.0033 600V	Note 1	P688N-0033	D6-332	CUB6D33	6DP-1-332	GEM-6233	6TM-D33
C83	220		D1-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C84	10000 1400V		DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10

Note 1. Not used in some versions.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R73A	5000Ω	½	220154-8	TT-10	B47-5000-S	B11-114	TA53L	Treble
B	Shaft			Not Req.	Not Req.	TM4		

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R74	10K	
R75	220K	
R76	150K	Note 1
R77	220K	
R78	1500Ω	
R79	100Ω	
R80	75Ω 10W	IRC#PW10-75Ω
R81	100Ω	
R82	100Ω	
R83	100Ω	
R84	220K	
R85	20K	
R86	15K	
R87	220K	
R88	5600Ω	
R89	220K	
R90	100Ω	
R91	100Ω	
R92	2200Ω	
R93	150K	
R94	1000Ω	
R95	15K	
R96	220K	
R97	22K	

RESISTORS (IRC or EQUIVALENT) (cont)

ITEM No.	RATING	REMARKS
R98	150K	
R99	5600Ω	
R100	220K	
R101	220Ω 2W	
R102	18K 1W	
R103	10K	

Note 1. Not used in some versions.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	NOTES
L21	Crossover Choke	360639-1				540MH
L22	RF Choke	360575-1	BC-561	4602	RTC-8515	1.2uh
L23	RF Choke	360575-1	BC-561	4602	RTC-8515	1.2uh
L24	Crossover Choke	360639-1				540uh
L25	RF Choke	360575-1	BC-561	4602	RTC-8515	1.2uh
L26	RF Choke	360575-1	BC-561	4602	RTC-8515	1.2uh

FILTER CHOKE

ITEM No.	RATINGS CURRENT (Measured)	RATINGS DC RES.	RATINGS INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
L27	.040	62Ω	1 HY	320041-2	C-2994	C-2343	26C41	C-24X	

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	117V ⓐ 1.8A	560VCT ⓐ .320A	5V ⓐ 6A	300085-1	P-3055①	P-8167②	26R92③	R-77BC④	①Tape 6.3V, 10A Winding. ②Tape 6.3V, 8.5A Winding. ③Tape 6.3V, 10A and 1.2A Winding. ④Tape 6.3V, 8A and 2A Winding.
	SEC. 3	SEC. 4	SEC. 5						
	6.3V ⓐ 4.4A								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T3	3300Ω CT	8-10Ω	330040-1					Bass Channel
T4	6100Ω CT	8-10Ω	330041-1	A-2901	A-3852	26S46	S-55Z	Treble Channel

SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA MAGNAVOX PART No.	QUAM PART No.	NOTES
SP1	15"	PM	8-10Ω	584140 *		* Alternate Part #584140-1
SP2	4"x10"	PM	8-10Ω	580053-1		† Alternate Part #584130-1
SP3	15"	PM	8-10Ω	584130 †		
SP4	4"x10"	PM	8-10Ω	580053-1		

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M11	Switch	160318-1	Speaker Selector (Rotary Wafer Type)

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)

REMOTE CONTROL RECEIVER PARTS LIST AND DESCRIPTIONS

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (6 Ft. Length) 1725-K (7½ Ft. Length)

TUBES

◆ GENERAL ELECTRIC ◆ RAYTHEON ◆ SYLVANIA ◆

ITEM No.	USE	TYPE
V26	RF Amplifier	EF93/6BA6
V27	RF Amp. - Function Relay Control	6U8A
V28	Det. -AF Amplifier	EBC91/6AV6
V29	Search Relay Control-Off-On Relay Control	6CM7
V30	Rectifier	6X4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C85A	▲20	350	270021-84	AFH2-69	B0500	FP282.5	TMD-2640	TVL-2935	
B	▲20	350							
C86	4	50	270027-27	PRS1400	BBR4-50	TT50X4	TD-4-50	TVA-1402	
C87	5	300	270027-34	PRS1600	BR435	TC60	TD-4-450	TVA-1601	Note 1
C88	5	300	270027-34	PRS1600	BR435	TC60	TD-4-450	TVA-1601	Note 1
C89	5	300	270027-34	PRS1600	BR435	TC60	TD-4-450	TVA-1601	Note 2
C90	5	300	270027-34	PRS1600	BR435	TC60	TD-4-450	TVA-1601	Note 2
C91	24	50NP	270040-6	PRS7560	BR2515	TCN3520		TVANS-1306.1*	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Note 1. C87 and C88 may be combined in one 10mfd unit (Part #270027-36).
Note 2. C89 and C90 may be combined in one 10mfd unit(Part #270027-36).

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C92	80-480	#260138-4				466		
C93	100		1468-0001	TCZ-100	5W5T1	CM-19B-101M	MC235	1FM-31
C94	.047 100V 10%		V80C2S47		PM2S47	1DP-2-473		2TM-S47
C95	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C96	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C97	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C98	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C99	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C100	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C101	100000 75V			DDA-104	CUB2P1	1DP-2-104	BT-010	2TM-P10
C102	100000 75V			DDA-104	CUB2P1	1DP-2-104	BT-010	2TM-P10
C103	100000 75V			DDA-104	CUB2P1	1DP-2-104	BT-010	2TM-P10
C104	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C105	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C106	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C107	.1 600V		P688N-1	D6-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10

Magnavox Part Number.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R104A	50K	½	220146-9	TT-31	B47-50K-S	B11-123	PTA54L	Gain, Receiver
B	Shaft			Not Req.	Not Req.	TM4	Not Req.	

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R105	4700Ω	
R106	390K	
R107	27K	
R108	2200Ω 1W	
R109	1meg	
R110	22meg	
R111	220K	

ITEM No.	RATING	REMARKS
R112	390K	
R113	1, 2meg	
R114	1meg	
R115	150Ω	
R116	150Ω	
R117	10K	
R118	10K	

ITEM No.	RATING	REMARKS
R119	47K	
R120	2, 2meg	
R121	2, 2meg	
R122	470Ω 1W	
R123	120Ω	
R124	3300Ω 1W	
R125	1000Ω 2W	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MAGNAVOX PART No.	REPLACEMENT DATA
K12	Remote RF Plate, Screen, Cathode Coupling	110mmf (10%) 470mmf, 680mmf, 10000mmf, 10000mmf, 1800Ω, 180K, 390K, 470K, 470K, 1meg, 10meg	250327-1	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	NOTES
L28	Loopstick	360786-2				18uh
L29	RF Input Coil	360787-1				100uh
L30	RF Interstage Coil	360806-1				48uh

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T5	117V @ .2A	440VCT @ .050 A (With Signal)	6.3V @ 2.3A	300181-1					
	SEC. 3	SEC. 4	SEC. 5						
	25V @ 1.8A (Motors Running)								

RECTIFIERS

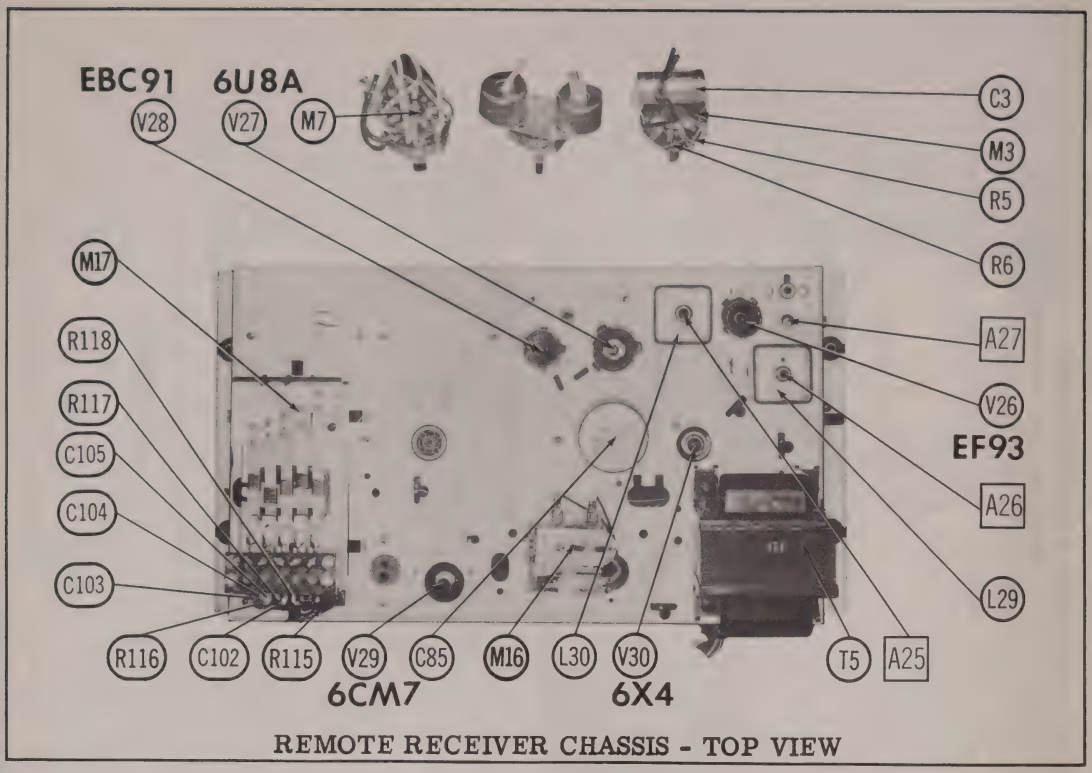
ITEM No.	RATING CURRENT (Measured)	REPLACEMENT DATA MAGNAVOX PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	NOTES
M12	.002A	530060-1 *					* Selenium Type
M13	.005A	530051-2 †					† Silicon Type

MISCELLANEOUS

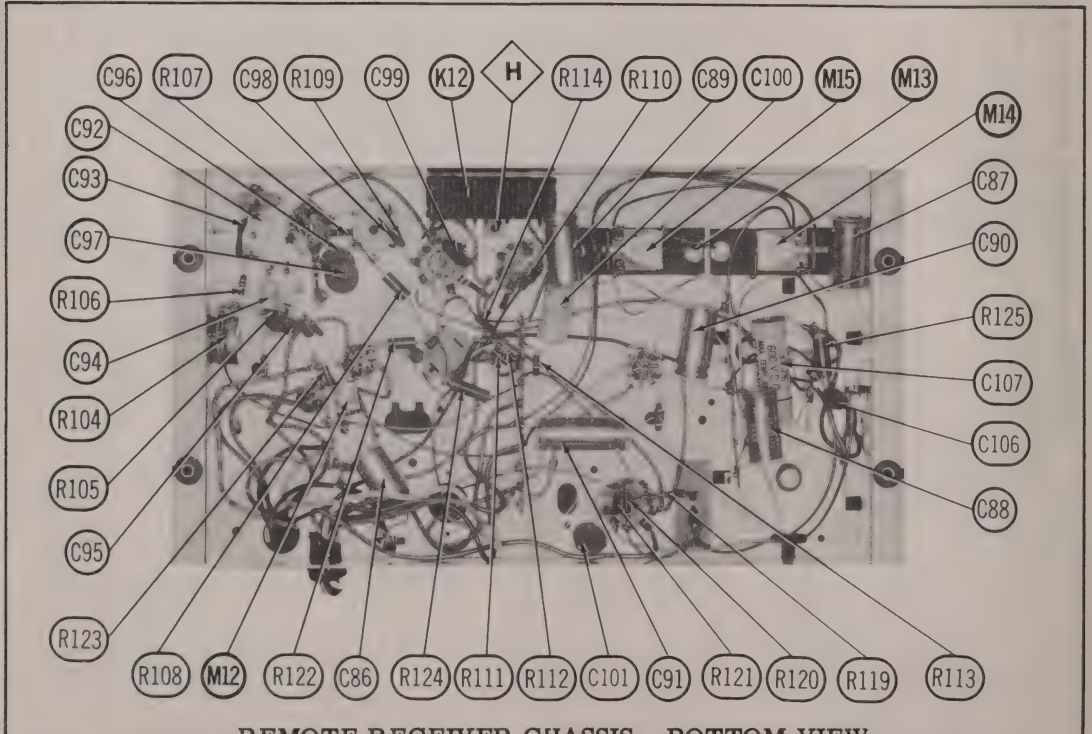
ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M14	Relay	160305-1	Volume Increase
M15	Relay	160305-1	Volume Decrease
M16	Relay	160323-2	Power Control
M17	Reed Assembly	700779-3	
M18	Switch	160324-1	Remote-Off-On

MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

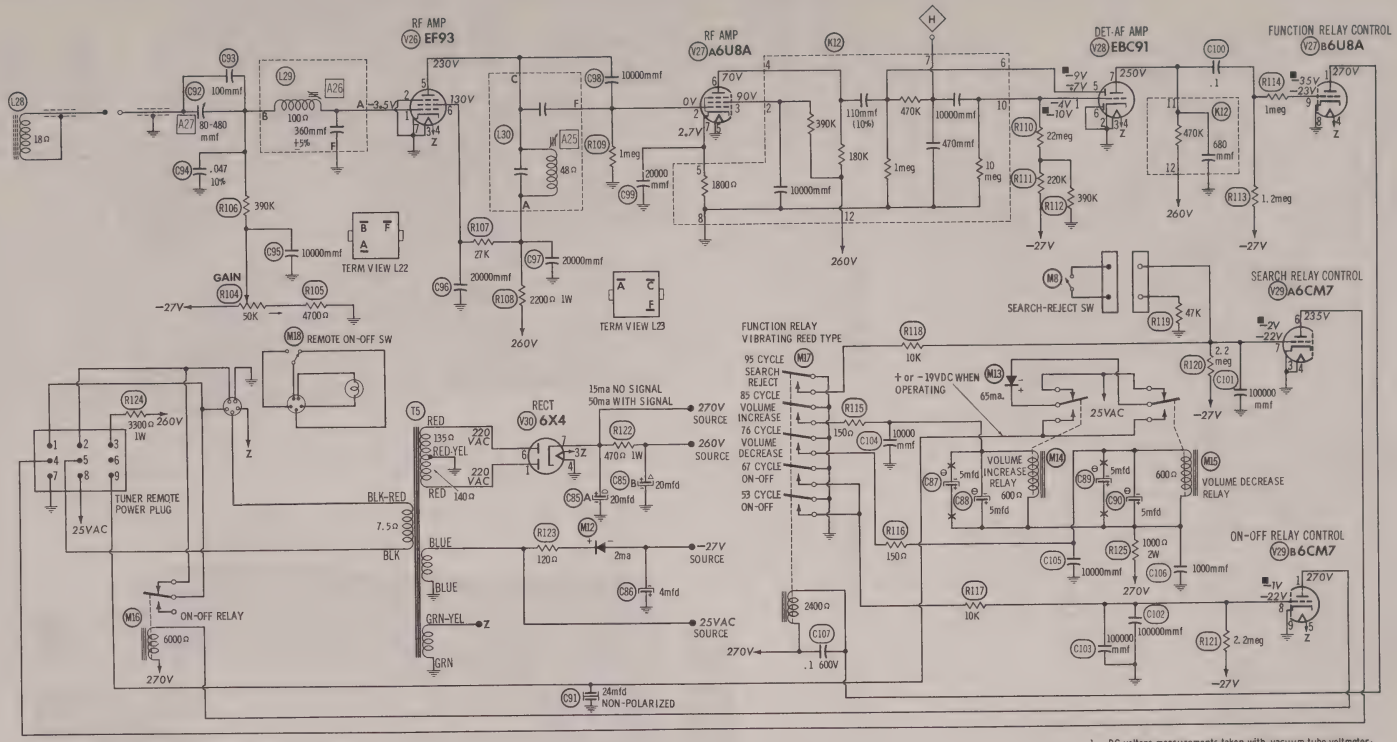
FOLDER 11



REMOTE RECEIVER CHASSIS - TOP VIEW



REMOTE RECEIVER CHASSIS - BOTTOM VIEW



REFER TO PAGE 14 FOR RESISTANCE MEASUREMENTS

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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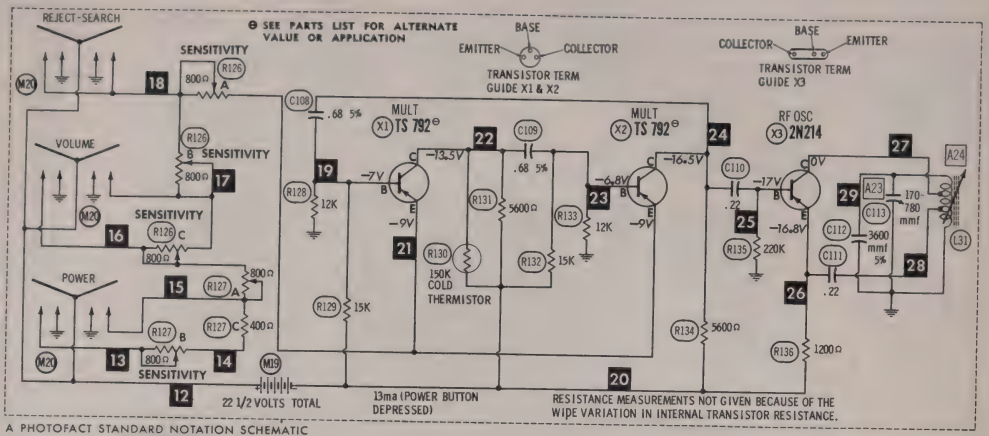
MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1

REMOTE RECEIVER SCHEMATIC

MAGNAVOX
CHASSIS 61-00



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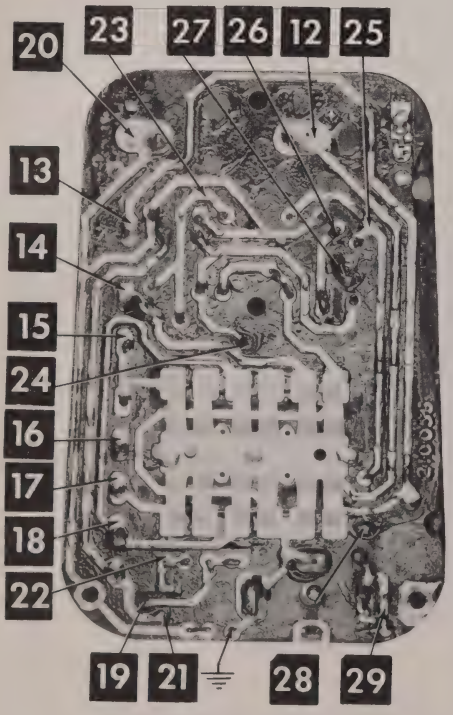
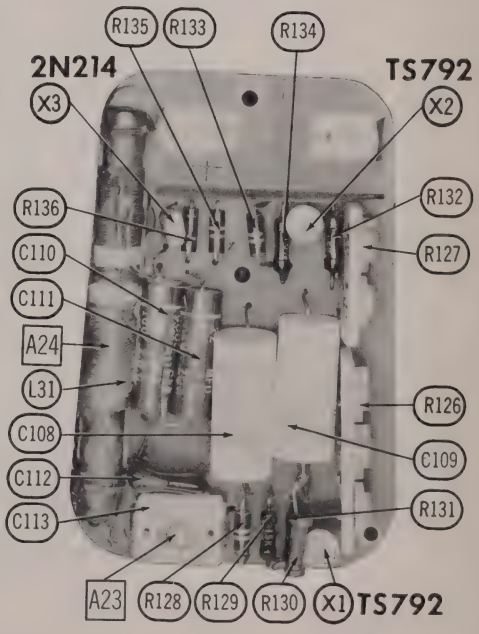
REMOTE TRANSMITTER SCHEMATIC





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REMOTE TRANSMITTER PRINTED BOARD

REMOTE TRANSMITTER PARTS LIST

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	TS-792 *	Multivibrator	2N218	2N362		PNP
X2	TS-792 *	Multivibrator	2N218	2N362		PNP
X3	2N214	RF Oscillator	2N649		2N214	NPN

* Alternate Type 2N218.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C108	.68 5% 100V	#250303-1	V84C2P68-5%					
C109	.68 5% 100V	#250303-1	V84C2P68-5%					
C110	.22 100V		P288N-22		CUB2P22	IDP-3-224	GEM-2022	2TM-P22
C111	.22 100V		P288N-22		CUB2P22	IDP-3-224	GEM-2022	2TM-P22
C112	3600 5%		1464-0036		1R5D36	CM-20B-362J		MS-236
C113	170-780	#260153-1				469		

Magnavox Part Number.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R126A	800Ω	1/4	220156-4					Sensitivity, Reject-Search
B	800Ω	1/4						Sensitivity, Volume Increase
C	800Ω	1/4						Sensitivity, Volume Decrease
R127A	800Ω	1/4	220156-3					Sensitivity, Power Off-On
B	800Ω	1/4						Sensitivity, Power Off-On
C	400Ω	1/4						Voltage Divider

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R128	12K	
R129	15K	
R130	150K(Cnld)	Pt. #230130-5

ITEM No.	RATING	REMARKS
R131	5600Ω	
R132	15K	
R133	12K	

ITEM No.	RATING	REMARKS
R134	5600Ω	
R135	220K	
R136	1200Ω	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L31	Ant. Coil	360785-1				

BATTERIES

ITEM No.	VOLTAGE	MAGNAVOX PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M19	22 ½V					412			

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M20	Spring Contact	636214-4	Reject-search, Volume Increase-Volume Decrease Power Off-On

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

REMOTE CONTROL ALIGNMENT INSTRUCTIONS

REMOTE CONTROL TRANSMITTER ALIGNMENT

For this alignment, use an extremely accurate signal generator or another transmitter of the same frequency known to be operating properly. The frequency at which the Oscillator was aligned at the factory is stamped on the inside of the unit case. This is the frequency at which the signal generator is to be set. Connect the output leads of the signal generator to the horizontal input terminals of the scope. Set the scope to Horizontal Input. If another transmitter of the same frequency is used, connect a small loop of wire to the horizontal input cable of the scope. Loosely couple this loop to the transmitter to be used for a standard.

Couple a similar loop to the transmitter antenna of the unit to be aligned and connect to the Vertical Input cable of the scope. Connect a short clip lead from positive side of the battery to ground on both units. Adjust the scope for equal deflection. Adjust A23 on the transmitter being aligned while observing the scope pattern. Adjust until the pattern is either a circle or a single ellipse. If the transmitter antenna has been replaced or is known to have been tampered with, preset A23 one-quarter turn from tight position and adjust A24 for the same pattern.

If two transmitters are to be used in close proximity, it will be necessary to alter the frequency of one. To do this, turn A23 two and one-half turns counterclockwise. This will raise the carrier frequency approximately 4 KC. It will then be necessary to align the receiver.

To make adjustments of the Audio Oscillator of the transmitter, remove the back from the transmitter and the reed cover from the receiver. Allow receiver to warm up. Depress the Search-Reject button and observe the shortest of the five reeds just closest to vibrate and then turn counterclockwise approximately one-third of the rotation between the extremes. Repeat the above procedure by depressing Volume Increase button and adjusting R126B, depress Volume Decrease and adjust R126C, depress Off-On button (bottom of button) and adjust R127A, depress Off-On button (top of button) and adjust R127B. Be sure to follow this sequence.

REMOTE CONTROL RECEIVER ALIGNMENT

Connect a short clip lead from the positive side of the battery to ground in the transmitter. This will energize the RF Oscillator to provide the signal to align the receiver. Connect the DC probe of a VTVM to point H in the receiver, Common to chassis. Set the Gain control in the receiver fully clockwise. Adjust A25, A26 and A27 for maximum deflection. Repeat as necessary. Use only enough signal to provide a VTVM reading. The signal level may be varied by rotating the transmitter loop.

RESISTANCE CHART

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6CY5	0Ω	78Ω	0Ω	.1Ω	††5700Ω	††73K	NC		
V2	6EA8	††7000Ω	100K	††6700Ω	.1Ω	0Ω	††5700Ω	0Ω	0Ω	10K
V3	6BA6	▲3.5meg	0Ω	0Ω	.1Ω	▲††10K	▲††10K	10Ω		
V4	6BE6	22K	0Ω	.1Ω	0Ω	▲††5700Ω	▲††15K	▲2.5meg		
V5	6BA6	3.2meg	0Ω	0Ω	.1Ω	††14K	††14K	68Ω		
V6	6BA6	220K	0Ω	0Ω	.1Ω	††8000Ω	††8000Ω	100Ω		
V7	6AL5	INF	INF	.1Ω	0Ω	9200Ω	0Ω	10K		
V8	6E5	0Ω	††490K	750K	††18K	0Ω	.1Ω			
V9	12AU7A	‡15K	‡165K	40K	.1Ω	.1Ω	‡165K	3.3meg	52K	0Ω
V10	12AX7A	††100K	2.2meg	3300Ω	250Ω	250Ω	††100K	2.2meg	3300Ω	250Ω
V11	12AX7A	††223K	2.5meg	1600Ω	250Ω	250Ω	††223K	2.5meg	1600Ω	250Ω
V12	12AX7A	††3000Ω	1meg	5700Ω	250Ω	250Ω	††3000Ω	1meg	5700Ω	250Ω
V13	5Y3GT	NC	¶	NC	110Ω	NC	105Ω	NC	¶	
V14	12AX7	†240K	220K	1500Ω	130Ω	130Ω	†240K	20K	5600Ω	130Ω
V15	6V6GT	NC	130Ω	†52Ω	†62Ω	240K	NC	130Ω	75Ω	
V16	6V6GT	NC	130Ω	†52Ω	†62Ω	240K	TP	130Ω	75Ω	
V17	6V6GT	NC	130Ω	†52Ω	†62Ω	240K	TP	130Ω	75Ω	
V18	6V6GT	NC	130Ω	†46Ω	†62Ω	220K	NC	130Ω	75Ω	
V19	6V6GT	NC	130Ω	†46Ω	†62Ω	220K	TP	130Ω	75Ω	
V20	6V6GT	NC	130Ω	†46Ω	†62Ω	220K	NC	130Ω	75Ω	
V21	12AX7	†170K	0Ω	1000Ω	130Ω	130Ω	†170K	22K	5600Ω	130Ω
V22	6V6GT	NC	130Ω	†110Ω	†62Ω	240K	NC	130Ω	220Ω	
V23	6V6GT	NC	130Ω	†25Ω	†62Ω	220K	TP	130Ω	220Ω	
V24	5U4GB	NC	¶	NC	10Ω	NC	11Ω	NC	¶	
V25	5U4GB	NC	¶	NC	10Ω	NC	11Ω	NC	¶	
V26	EF93 6BA6	395K	0Ω	0Ω	.8Ω	‡2600Ω	‡30K	0Ω		
V27	6U8A	‡2400Ω	1meg	‡390K	.8Ω	0Ω	‡180K	1800Ω	0Ω	2.3meg
V28	EBC91 6AV6	8meg	0Ω	0Ω	.8Ω	1meg	0Ω	‡470K		
V29	6CM7	‡6000Ω	TP	0Ω	0Ω	.8Ω	‡15K	2.2meg	2.2meg	0Ω
V30	6X4		NC	.8Ω	0Ω	NC		¶		

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT. MEASURED IN "AM" POSITION.

TP TIE POINT

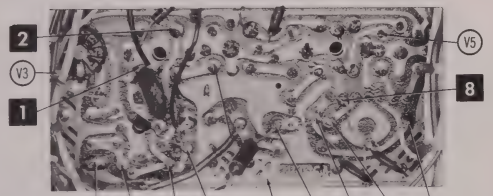
NC NO CONNECTION

† MEASURED FROM PIN 8 OF V25.

‡ MEASURED FROM PIN 7 OF V30.

†† MEASURED FROM PIN 2 OF V13.

REMOTE RECEIVER MEASUREMENTS TAKEN WITH GAIN CONTROL FULLY COUNTERCLOCKWISE.



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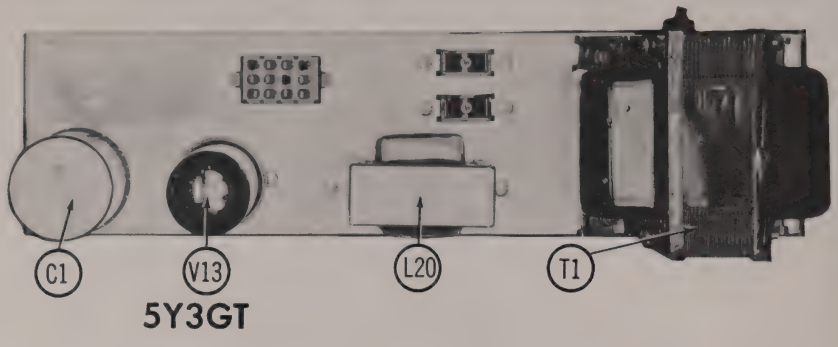
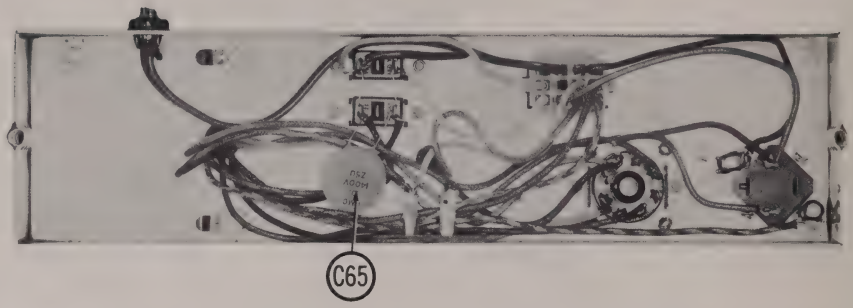
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

TUNER PRINTED BOARD

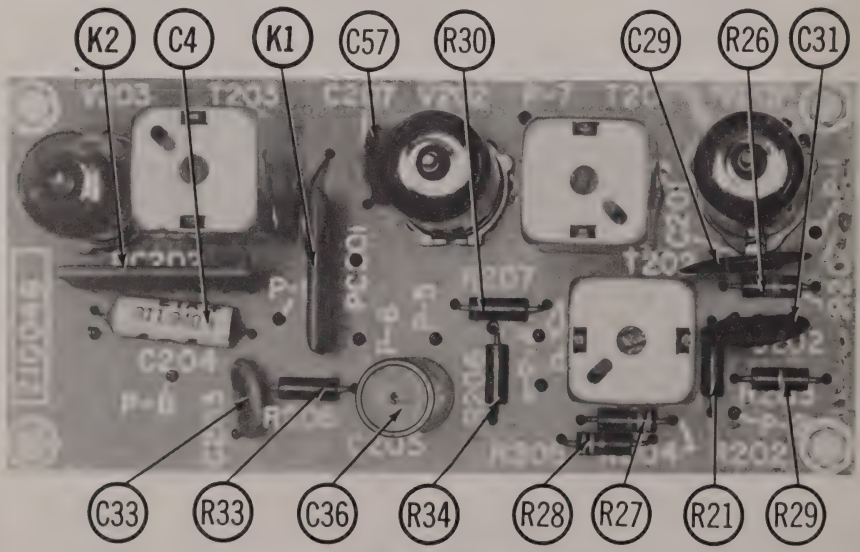
MAGNAVOX CHASSIS 61-00, 82-01-00, 700782-3, 700832-1, 700842-1



POWER CHASSIS-TOP VIEW



POWER CHASSIS - BOTTOM VIEW



TUNER PRINTED BOARD

TUNER PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (GENERAL ELECTRIC • RAYTHEON • SYLVANIA)
V1	FM RF Amplifier	6CY5
V2	FM Mixer-FM Osc.	6EA8
V3	AM RF Amplifier	6BA6
V4	AM Converter	6BE6
V5	1st FM-AM IF Amplifier	6BA6
V6	2nd FM IF Amp. -AM Det.	6BA6
V7	Ratio Detector	6AL5
V8	Tuning Indicator	6E5
V9	Trigger	12AU7A
V10	Channel 1 AF Amp. - Channel 2 AF Amp.	12AX7A
V11	Channel 1 AF Amp. - Channel 2 AF Amp.	12AX7A
V12	Channel 1 Cathode Follow Channel 2 Cathode Foll.	12AX7A
V13	Rectifier	5Y3GT

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	▲30	450	270021-58	AFH2-54	B0430	FP237	TMD-2640	TVL-2759	
B	▲30	450							
C2A	■30	450	270021-83	AFH3-39	C0300	FP376.7	TMT-3733	TVL-3782	
B	▲30	450							
C	▲30	450							
C3	4	200	270027-33	PRS1550	BBR4-250	TC50X	TD-4-250	TVA-1501	
C4	4	50	270559-9	PRS1400	NLW5-50	TT50X4	ML4-50	TE-1302.1	
C5	25	25	270042-1	SRE25V25	BBR25-25	TC26	TD-25-25	TVA-1205	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	1000		EF-001	MFT-1000		CCF-102	CT280A	
C7	1000		EF-001	MFT-1000		CCF-102	CT280A	
C8	1000		EF-001	MFT-1000		CCF-102	CT280A	
C9	100 10%		1469-0001	TCZ-100	22R5T1	CM-19B-101K	MCB235	MS-31
C10	100 10%		1469-0001	TCZ-100	22R5T1	CM-19B-101K	MCB235	MS-31
C11	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C12	2.2 10%		NPO-SI 2.2	TCZ-2R2	C10V22C	CCTO-2R2	CNO-522	10TCC-V22
C13	220 10%		1469-00022	TCZ-220	22R5T22	CM-19B-221K	CNO-322	MS-322
C14	5 N470 5%	#250088-138				*		
C15	2.5-12	#250188-9						
C16	220 10%		1469-00022	TCZ-220	22R5T22	CM-19B-221K	CNO-322	MS-322
C17	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C18	470		1468-00047	DD-471	22R5T47	CM-19B-471M	MCJ244	1FM-347
C19	.1 100V		P288N-1	DF-104	CUB2P1	2DP-2-104	GEM-201	2TM-P10
C20	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C21	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C22	12 N330					*		10TCS-Q12
C23	47		DI-47	DD-470	L10Q47	CCO-470	GP447	10TS-Q47
C24	8 N2200 5%	#250088-180				*		
C25	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C26	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C27	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C28	1000		EF-001	MFT-1000		CCF-102	CT280A	
C29	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C30	1.2 10%	#250221-14						
C31	3300		BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33
C32	.15 10%	#250221-2						
C33	1500 10%		DI-1500	DD-152	5R5D15	CCD-152	GP215	10TS-D15
C34	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C35	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C36	.1 200V		P2151N-1	DF-104	BC2P1J	2DP-2-104	ACE-401	2SE-P10
C37	1000 5%		1469-001		5R5D1	CM-19B-102J	MCJ255	MS-21
C38	1000 5%		1469-001		5R5D1	CM-19B-102J	MCJ255	MS-21
C39	680		BPD-00068	DD-681	BYA10T68	CCD-681	B-368	10TS-T68
C40	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C41	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C42	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C43	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C44	2000		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C45	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C46	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C47	.47 100V		P288N-47		CUB2P47	1DP-4-474	GEM-2047	2TM-P47
C48	2000		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C49	6800		BPD-0068	DD-682	BYA10D68	CCD-682	B-268	5HK-D68
C50	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C51	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C52	2000		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C53	6800		BPD-0068	DD-682	BYA10D68	CCD-682	B-268	5HK-D68
C54	1000		EF-001	MFT-1000		CCF-102	CT280A	
C55	1000		EF-001	MFT-1000		CCF-102	CT280A	
C56	1000		EF-001	MFT-1000		CCF-102	CT280A	
C57	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C58	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C59	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C60	100000 75V			DDA-104	CUB2P1	1DP-2-104	BT-010	2TM-P10
C61	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C62	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C63	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C64	10000 1400V		DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10
C65	10000 1400V		DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10
C66	10000 1400V		DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
\# Magnavox Part Number.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1meg	½	220158-1 *					Loudness, Channel 1
	100K Tap							
B	1meg	½						Loudness, Channel 2
	100K Tap							
R2A	1meg	½	220150-9	TPL-104				Timber, Channel 1
B	1meg	½		Not Req.			UE4183-S	Timber, Channel 2
C	Switch			Not Req.				
R3A	500K	½	220154-9	TT-59	B47-500K-S	B11-133	PTA55L	Phono Balance
B	Shaft			Not Req.	Not Req.	TM4	Not Req.	
R4	2000Ω	2(WW)	220120-4		39-2000	112-2000	FL2K	Hum Balance

* Includes Motor

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R5	470Ω	
R6	12K	
R7	10Ω	
R8	68Ω	
R9	68K	
R10	22Ω	
R11	100K	
R12	220Ω	
R13	10K	
R14	1000Ω	
R15	1meg	
R16	2700Ω	
R17	47000Ω 2W	
R18	22K	
R19	100Ω	
R20	10K 2W	
R21	1000Ω	
R22	10K 3W	IRC#PW5-10KΩ
R23	2.2meg	
R24	1000Ω	
R25	15K	
R26	68Ω	
R27	47K	
R28	47K	
R29	220K	
R30	2.2meg	
R31	2200Ω 1W	
R32	1meg	
R33	2.2meg	
R34	1.5meg	
R35	470K	
R36	15K	
R37	3.3meg	
R38	470Ω	
R39	220Ω	
R40	4.7meg	
R41	47K	
R42	120K	
R43	6800Ω	
R44	47K	
R45	1meg	
R46	680K	
R47	220K	
R48	47K	
R49	47K	(150K) *

TUNER PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (IRC or EQUIVALENT) (cont)

ITEM No.	RATING	REMARKS
R50	22K	
R51	1meg	
R52	1.5meg	
R53	220K	
R54	150Ω	
R55	1500Ω	
R56	47K	
R57	47K	

ITEM No.	RATING	REMARKS
R58	1meg	
R59	22K	
R60	1meg	
R61	1.5meg	
R62	220K	
R63	4000Ω 7W	IRC#PW10-4KΩ
R64	680Ω 5W	IRC#PW5-680Ω
R65	2200Ω 2W	

ITEM No.	RATING	REMARKS
R66	150Ω 1W	
R67	330Ω	
R68	1000Ω 1W	
R69	2.2meg	
R70	47K	(150K) *
R71	3.3meg	
R72	3.3meg	

* Alternate Value.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MAGNAVOX PART No.	REPLACEMENT DATA
K1	2nd FM IF Screen & Cathode	1000mmf, 5000mmf, 5000mmf, 100Ω, 1000Ω	250330-1	
K2	Ratio Detector Comp.	120mmf, 330mmf, 330mmf, 1000Ω, 1200Ω, 1500Ω, 8200Ω, 8200Ω, 68K	250254-2	Centralab PC-354
K3	AF Amp. Grid, Plate, Cathode	100mmf, 10000mmf, 10000mmf, 3300Ω, 22K, 270K, 2.2meg	250335-1	
K4	Loudness Comp.	47mmf, 47mmf, 5000mmf, 5000mmf, 5000mmf, 5000mmf, 68K, 68K	250336-1	
K5	Timber Comp.	100mmf, 100mmf, 220mmf, 220mmf, 3300mmf, 3300mmf, 1500Ω, 1500Ω	250337-1	
K6	Cathode Follower Grid	470mmf, 1000Ω, 1000Ω, 4700Ω, 4700Ω, 1meg, 1meg	250338-1	
K7	Bass Comp.	5000mmf, 6800mmf, 15000mmf, 47000mmf, 6800Ω, 47K, 56K, 1meg	250291-1	
K8	Treble Comp.	1000mmf, 3300mmf, 5000mmf, 22K, 47K, 100K	250292-2	
K9	AF Amp. Grid Plate, Cathode	100mmf, 10000mmf, 10000mmf, 3300Ω, 22K, 270K, 2.2meg	250335-1	
K10	Bass Comp.	5000mmf, 6800mmf, 15000mmf, 47000mmf, 6800mmf, 47K, 56K, 1meg	250291-1	
K11	Treble Comp.	1000mmf, 3300mmf, 5000mmf, 22K, 47K, 100K	250292-2	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MAGNAVOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	FM Ant. Trans.	360491-4				
L2	FM Ant. Coil	360750-1				
L3	RF Choke	360522-9	BC-563	4606	RTC-8517	2uh
L4	FM RF Coil	360751-1				
L5	FM Osc. Coil	360628-1				
L6	Fil. Choke	360522-9	BC-563	4606	RTC-8517	2uh Note 1
L7	Fil. Choke	360522-9	BC-563	4606	RTC-8517	2uh
L8	1st FM IF Trans.	360626-1	FM-254	1463	RTC-8599	
L9	Loopstick	360746-4	BC-419	705-A		
L10	AM RF Coil	360753-1	BC-388	70-RF	RTC-8732	
L11	AM Osc. Coil	360752-1	BC-393	70-OSC	RTC-8647	
L12	1st AM IF Trans.	360611-1	BC-352	12-C1	RTC-8632	
L13	2nd FM IF Trans.	360747-1	FM-256	1463-PC	RTC-9046	
L14	2nd AM IF Trans.	360781-2	BC-329	13-PC6	RTC-8643	
L15	Ratio Detector	360748-1		1465-PC	RTC-9053	
L16	10KC Filter Coil	360621-1				
L17	AM-FM Search Trans.	360809-1				
L18	Fil. Chock	360522-9	BC-563	4606	RTC-8517	2uh
L19	Motor RF Choke	360522-9	BC-563	4606	RTC-8517	2uh

Note 1. Not used in some versions.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ∿)	MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L20	.050A	55Ω	1 HY	320041-6	C-2994	C-2343	26C41	C-24X	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MAGNAVOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	117V @ .5A	540VCT @ .050A	5V @ 2A	300180-1					
	SEC. 3	SEC. 4	SEC. 5						
	5.8V @ .9A	6.3V @ 3.5A							

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA								NOTES
	MAGNAVOX PART No.		ASTATIC PART No.		ELECTRO-VOICE PART No.		SONOTONE PART No.		
	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	
M1	560250-3	560234-1 * and 560235-1 *	13TBX	Not Req.	26SD	Not Req.	8TA4-SD	N-8TA-SD *	

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M2	Tuning Cap.	260147-1	3 Gang (Ant. 28-322mmf, RF 15-280mmf, Osc. 22-151mmf)
M3	Switch	160307-5	Band Selector (Rotary Wafer Type)
M4	Switch	160294-2	Sensitivity (Rotary Wafer Type)
M5	Switch	160278-2	Bass (Rotary Wafer Type)
M6	Switch	160278-2	Treble (Rotary Wafer Type)
M7	Switch	160321-1	Reversing (Rotary Wafer Type)
M8	Switch	160282-1	Search-Reject (Pushbutton Type)
M9	Relay	160320-1	Search
M10	Motor	500196-1	Search
	Motor	500198-1	Search (Alternate, May be used in some versions)

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)

Low-Loss Shielded Lead (Interconnecting) ..... Use BELDEN No. 8401

Phono Pick-up Arm Cable ..... Use BELDEN No. 8430 (Two Conductor - Twisted)

PHOTOFACT® Folder

MOTOROLA MODEL CRM60X

TRADE NAME	Motorola Model CRM60X (For 1960 Corvairs)
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois
TYPE SET	Battery Operated 4 Tube, 2 Transistor Custom Built Automobile Receiver
POWER SUPPLY	12 Volt Storage Battery RATING 1.3 Amp. @ 12.6 Volts
TUNING RANGE—BROADCAST	540 — 1610KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:
A1 thru A4...GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A5, A6, A7...GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528
A8, A9, A10..GENERAL CEMENT #9050-L, 9150
WALSCO #2521, 2524

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	262.5KC (400~ Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1610KC	"	"	A5, A6, A7	"
	Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A8, A9 and A10) 7/16" out of coils. Repeat Step 2.					
3.	Thru dummy to antenna receptacle.	1200KC	Tuner carriage 9/32" from high end stop.	Across voice coil.	A8, A9, A10	Adjust for maximum output. Repeat Step 2.
4.	With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.					

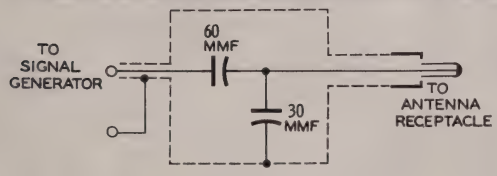
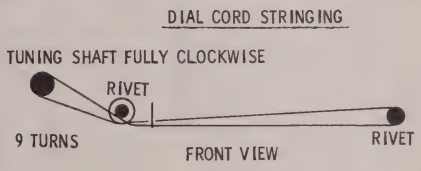


FIG. 1



HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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MOTOROLA MODEL CRM60X
MOTOROLA MODEL CRM60X
SET 510 FOLDER 12

PARTS LIST AND DESCRIPTIONS

TUBES

• GENERAL ELECTRIC •			• RAYTHEON • SYLVANIA •		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	12BL6	V3	IF Amplifier	12BL6
V2	Converter	12AD6	V4	Det. -AVC-AF Amp.	12F8

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	MN-53 *	Driver	2N591	MN-53	2N591	PNP
X2	2N176	Output	2N176		2N176	PNP Note 1

* Alternate Type 2N652.

Note 1. When replacing, apply DC-4 grease (Part #1M490487), or equivalent, to both sides of insulator. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	■500	16	23B543279	AFH3-00-95		WP300.85		TVLS-3026.8*	
B	▲500	16							
C	100	16							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	40-430	#20A542758						
C3	.002 1000V 10%				DPMS16D2	16DP-2-202	GP220	10TS-D20
C4	20-120	#20K541014				424		
C5	47 N750 10%.		N750-DI 47	DTN-47	C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C6	.05 200V		P288N-05	DD-503	CUB2S5	4DP-3-503	GEM-415	2TM-S50
C7	1500		BPD-0015	DD-152	BYA10D15	CCD-152	B-215	5HK-D15
C8	47 N750		N750-DI 47	DTN-47	C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C9	395-470	#20A485708						
C10	27 NPO 10%		NPO-DI 25	TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C11	2000		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C12	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C14	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C15	25000				DPMS6S25	4DP-2-253	GEM-4125	4TM-S25

\# Motorola Part Number.

CONTROLS

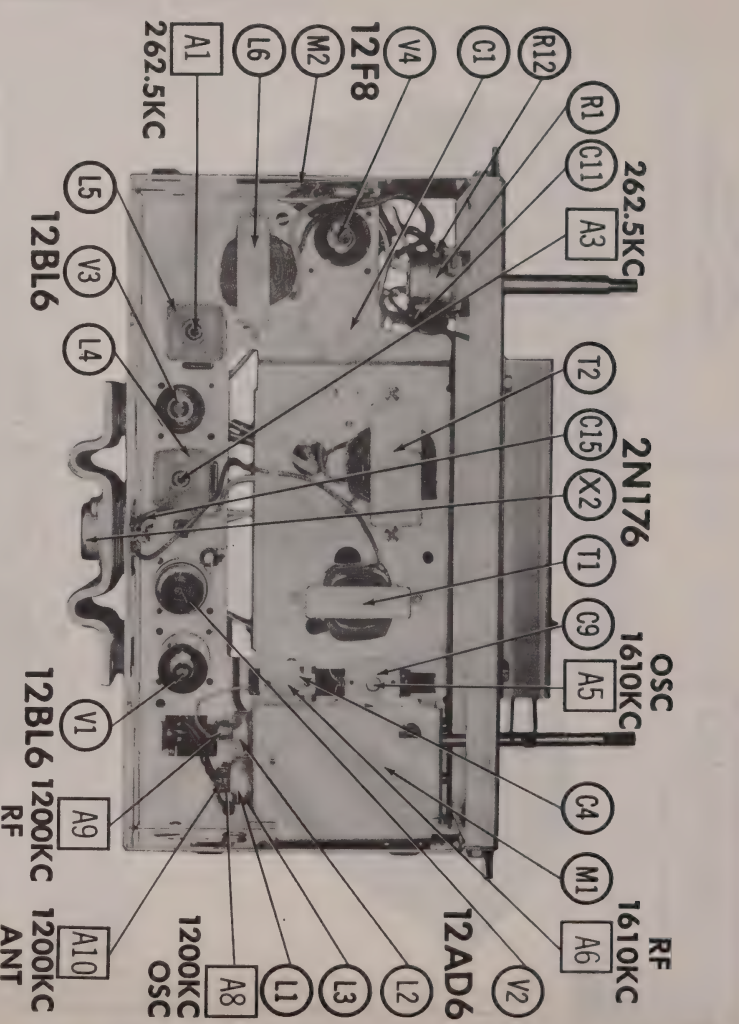
ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	500K		18K544235	F1-41				
B	2meg			R2-75	RTV-654C	† QJ-1083A	■ UE3828-S	Tone Volume
	1meg Tap							
C	Switch			KR-4				Power Off-On Bias
R2	300Ω	2(WW)	18K543493		39-300 *	112-300 *	FL500 *	
	36Ω Stop							

* Use 33Ω series resistor.

† "CONCENTRIKIT" equivalent : K-6 kit with base elements & shafts: B13-133, P13-118 (Panel) B18-139X, R1-130 (Rear) 76-1 (Switch)

■ "STA-LOC" equivalent: FA55A, RU26T16, OS1562A, IS2000, US41.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R3	22K	
R4	22meg	
R5	3300Ω	
R6	1meg	
R7	47K	
R8	330Ω	
R9	4.7meg	

ITEM No.	RATING	REMARKS
R10	3.3meg	
R11	2.7meg	
R12	100K	
R13	3.3meg	
R14	3300Ω	
R15	100Ω	
R16	22K	

ITEM No.	RATING	REMARKS
R17	680Ω	
R18	6800Ω	
R19	10Ω Cold	#6K543800
R20	10Ω	
R21	330Ω	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Ant. Coil	24K564431				
L2	RF Coil	24K562245				
L3	Osc. Coil	24K564430				
L4	Input IF Trans.	24B543286	BC-350	12-H1	RTC-8638	
L5	Output IF Trans.	24K543287	BC-354	12-H6	RTC-8640	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ∿)	MOTOROLA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L6	1.3A	.6Ω	.001 HY	25K542487E ①					①Alternate Part # 25K542487.

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	20	1	25B543340B①					① Alternate Part #25B543340.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
	PRI.	MOTOROLA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	40Ω Tap ⓐ 3-4Ω	25K544271B①					①Alternate Part #25K544271.

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	6"x 9"	PM	3-4Ω	50C544396	69A2	

MISCELLANEOUS

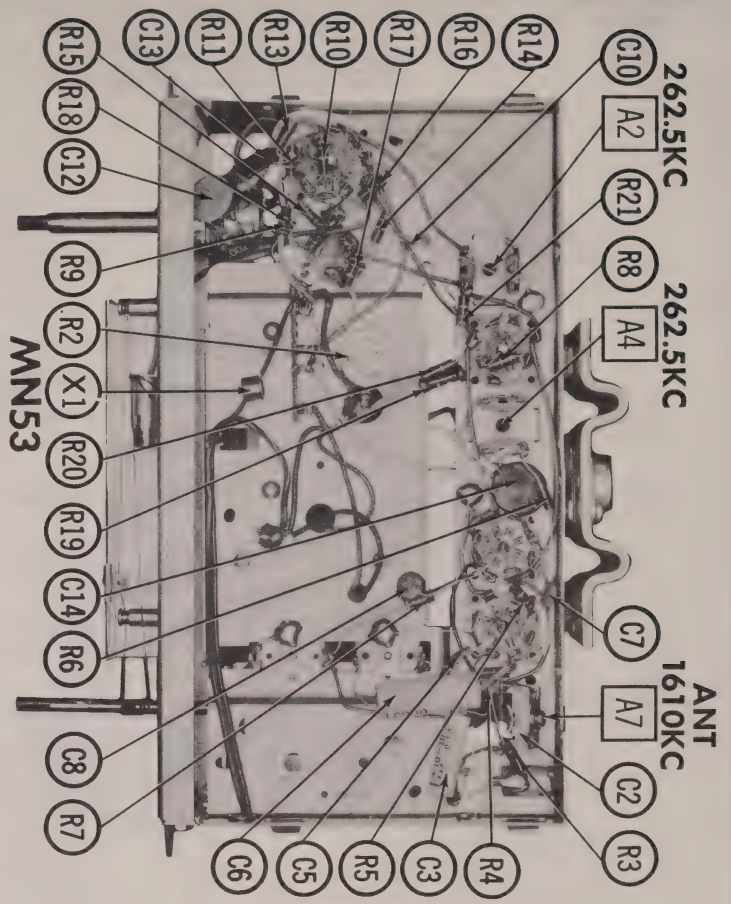
ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M1	Tuner	77K564419	Complete (MT-320)
M2	Spark Plate	64K530177	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

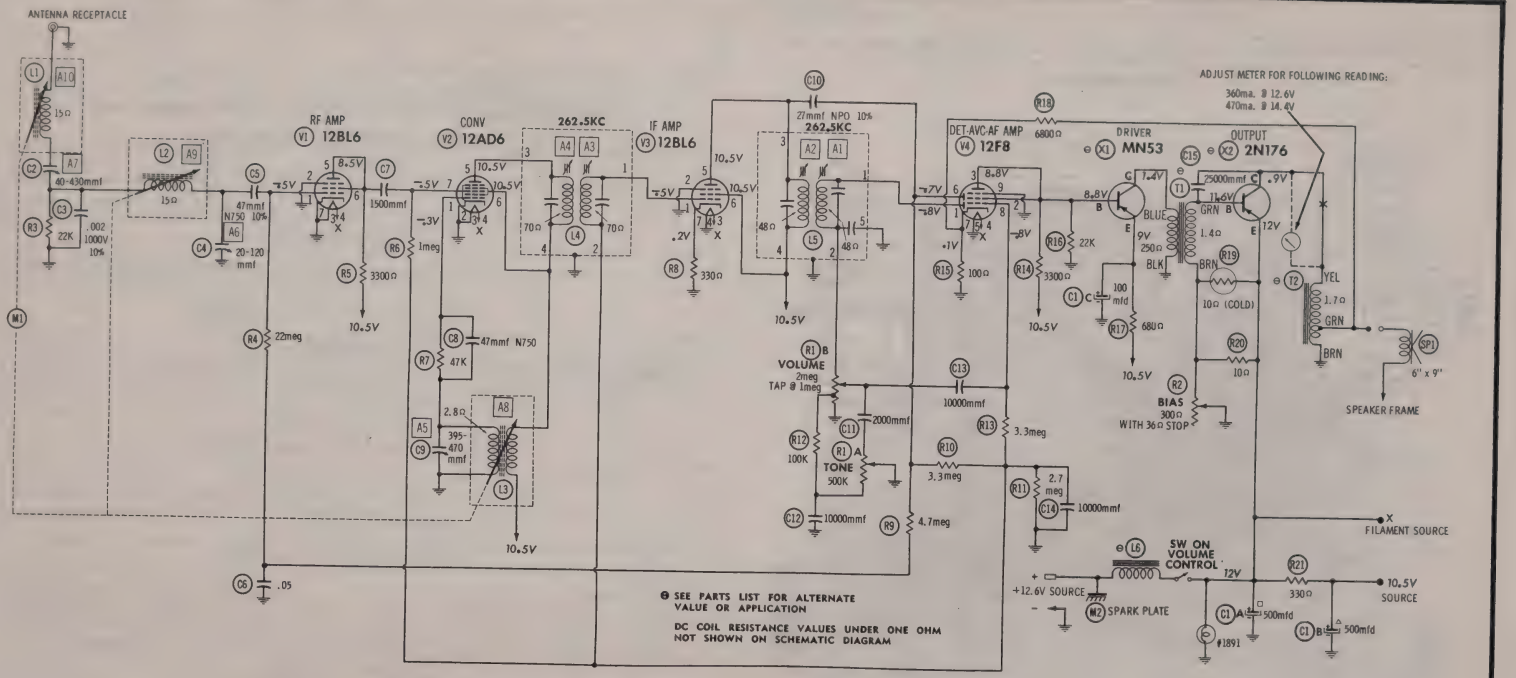
NAME	PART NO.	DESCRIPTION
Dial Scale	34B544310	
Dial Pointer	52A541314	
Knob	36B542650	Tuning, Volume
Knob	36B543330	Tone
Knob	36B543332	Dummy

CHASSIS—BOTTOM VIEW



WIRING DATA

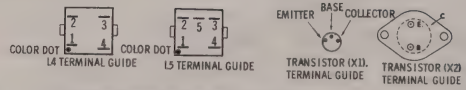
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8661



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BL6	33meg	0Ω	0Ω	.1Ω	3600Ω	3600Ω	0Ω		
V2	12AD6	47K	0Ω	0Ω	.1Ω	400Ω	330Ω	3.7meg		
V3	12BL6	2.7meg	0Ω	.1Ω	0Ω	380Ω	330Ω	330Ω		
V4	12F8	1.4meg	2300Ω	2300Ω	0.1Ω	0Ω	2.1meg	100Ω	6meg	0Ω

TRANSISTOR CIRCUIT RESISTANCE FOR X1 AND X2 NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.



1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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MOTOROLA
MODEL CRM60X

PHOTOFACT® Folder

NORELCO MODEL L1X75T/64R

NORELCO MODEL L1X75T/64R

NORELCO MODEL L1X75T/64R

TRADE NAME	Norelco Model L1X75T/64R		
SUPPLIER	North American Philips Co., Inc., 100 E. 42nd St., New York 17, N. Y.		
TYPE SET	Battery Operated Transistorized Portable AM Receiver		
POWER SUPPLY	6 Volts DC	RATING	10MA @ 6 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	517 - 1622KC		12MA @ 6 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.
Suggested Alignment Tools: A5, A7 ..... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Loop	452KC (400∿ Mod.)	Tuning gang fully open	Across Voice Coil	A1, A2, A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
2.	"	512KC	Tuning gang fully closed	"	A4	"
3.	"	1630KC	Tuning gang fully open	"	A5	Adjust for maximum output. Repeat steps 2 and 3.
4.	"	600KC	600KC Signal	"	A6	Adjust for maximum output.
5.	"	1500KC	1500KC Signal	"	A7	"

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PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	OC44 ①	Converter	2N219	2N486	2N219	PNP
X2	OC45 ②	1st IF Amplifier	2N218	2N483	2N218	PNP
X3	OC45 ②	2nd IF Amplifier	2N218	2N483	2N218	PNP
X4	OC71	AF Amplifier	2N406	2N362		PNP
X5	OC71	Driver	2N406	2N362		PNP
X6	20C72 ③	Output	2N270	2N360		PNP } Matched Pair
X7	20C72 ③	Output	2N270	2N360		PNP } Matched Pair

① Alternate Type 2N219. ② Alternate Type 2N218. ③ Has heat sink.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	NORELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1	25	6	909/A25	XPP-6025	NLW25-6	TT6X25	ML30-6	TE-1091	
C2	8	6	AC5701/8	XPP-6008	NLW8-6	TT6X8	ML8-6	TE-1086	
C3	8	6	AC5701/8	XPP-6008	NLW8-6	TT6X8	ML8-6	TE-1086	
C4	8	6	AC5701/8	XPP-6008	NLW8-6	TT6X8	ML8-6	TE-1086	
C5	8	6	AC5701/8	XPP-6008	NLW8-6	TT6X8	ML8-6	TE-1086	
C6	80	6	AC5711/80	PWE6100	NLW100-6	TT6X80	ML100-6	TE-1102	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	.047 125V 10%	#WN70134/G47K						
C8	3300			D6-332	BYA10D33	CCD-332	GP233	5HK-D33
C9	.047 125V 10%	#WN70134/G47K						
C10	82		NPO-SI 82	TCZ-82	C10Q82C	CCTO-820	CNO-482	10TCC-Q82
C11	.047 125V	#WN70134/G47K						
C12	.047 125V 10%	#WN70134/G47K						
C13	27		NPO-SI 27	TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C14	.047 125V 10%	#WN70134/G47K						
C15	.047 125V	#WN70134/G47K						
C16	4700		SI 4700	D6-4700	BYA10D47M	CCD-472	B-247	5HK-D47
C17	.047 125V	#WN70134/G47K						2WF-S47
C18	150	Note 1	SI 150	D6-151	L10T15	CCD-141	B-315	10TS-T15

Norelco Part Number

Note 1. Not used in some versions.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	NORELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	10K	1/4	B151406					Volume and Switch

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

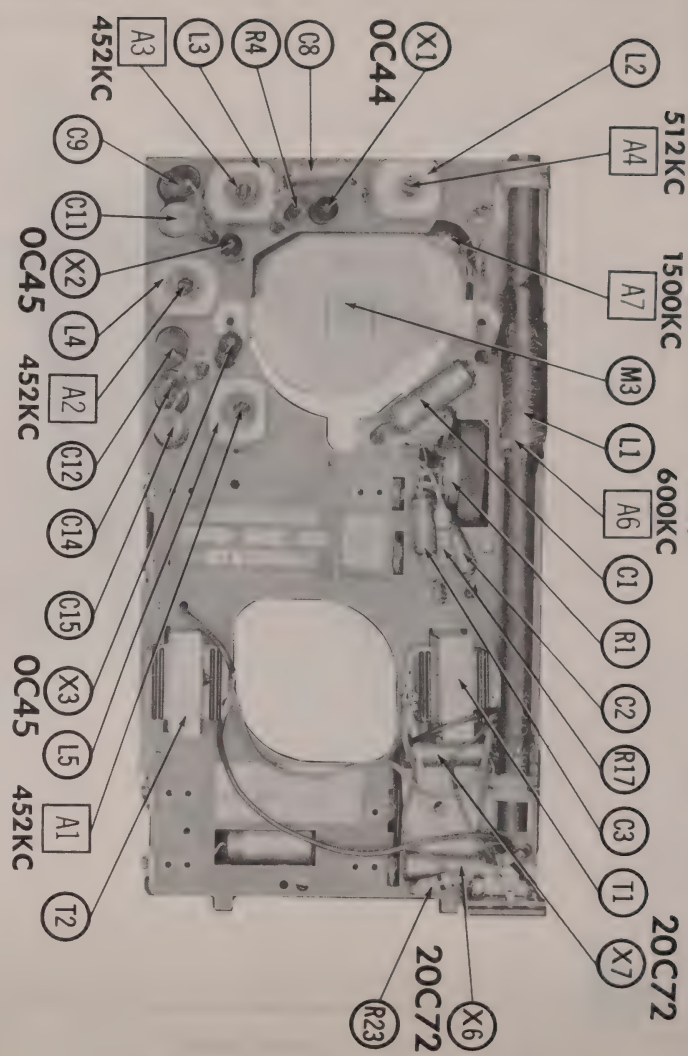
ITEM No.	RATING	REMARKS
R2	3300Ω	Note 1
R3	12K	
R4	18Ω	
R5	3300Ω	
R6	180K	
R7	15K	
R8	560Ω	
R9	1000Ω	
R10	4700Ω	

ITEM No.	RATING	REMARKS
R11	15K	
R12	1000Ω	
R13	1000Ω	
R14	680Ω	
R15	3300Ω	
R16	22K	
R17	1000Ω	
R18	2700Ω	
R19	3300Ω	

ITEM No.	RATING	REMARKS
R20	12K	
R21	1000Ω	
R22	3000Ω	Note 1
R23	3600Ω	
R24	100Ω	
R25	10Ω	
R26	270Ω	
R27	220Ω	

Note 1. Not used in some versions.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		NORELCO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Loopstick	A380362				
L2	Osc. Coil	A312865				
L3	1st IF Trans.	A312866				
L4	2nd IF Trans.	A312866				
L5	3rd IF Trans.	A312867				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	NORELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.7	1	A316203					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	NORELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	320Ω CT	3-4Ω	A315390					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	NORELCO PART No.	QUAM PART No.	
SP1	2½"	PM	3-4Ω	AD2200Z	25A07Z4.8	

BATTERIES

ITEM No.	VOLTAGE	NORELCO PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V			930 *		1015 *		M-15R *	* 4 Required

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		NORELCO PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M2	OA79		1N295	1N295	Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	NORELCO PART No.	NOTES
M3	Tuning Cap.	4900222	2 Gang (Ant. 21-203mmf, Osc. 8-62mmf)

CABINETS & CABINET PARTS

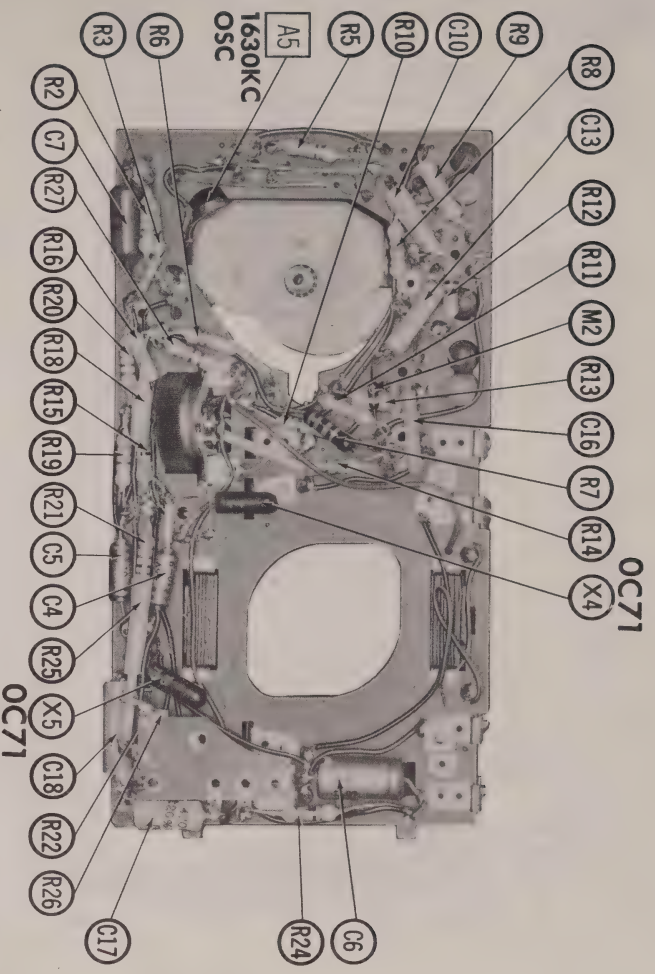
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	A377261	Tuning
Knob	A377257	Volume
Dial	A392569	Overseas
Dial	A392574	South
Cabinet	A377964	

WIRING DATA

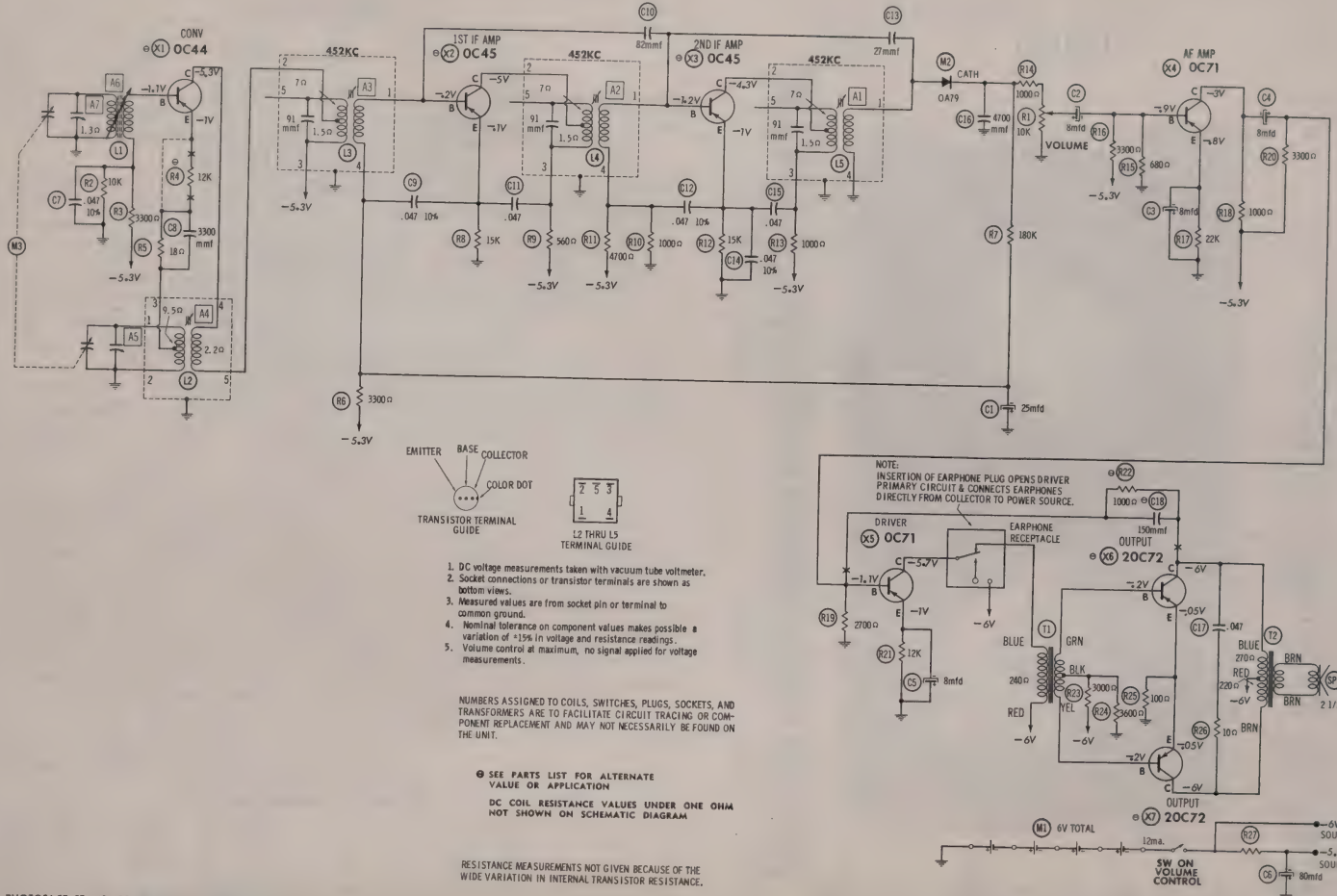
General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—BOTTOM VIEW



NORELCO MODEL
L1X75T/64R

FOLDER 13


CONV
X1 OC44
1ST IF AMP
X2 OC45
2ND IF AMP
X3 OC45
AF AMP
X4 OC71
452KC
82mmf
27mmf
CATH
OA79
VOLUME
DRIVER
X5 OC71
EARPHONE RECEPTACLE
OUTPUT
X6 20C72
OUTPUT
X7 20C72
M1 6V TOTAL
12ma.
SW ON VOLUME CONTROL
6V SOURCE
5.3V SOURCE
80mfd
EMITTER
BASE
COLLECTOR
COLOR DOT
TRANSISTOR TERMINAL GUIDE
L2 THRU L5 TERMINAL GUIDE
NOTE:
INSERTION OF EARPHONE PLUG OPENS DRIVER PRIMARY CIRCUIT & CONNECTS EARPHONES DIRECTLY FROM COLLECTOR TO POWER SOURCE.
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.
⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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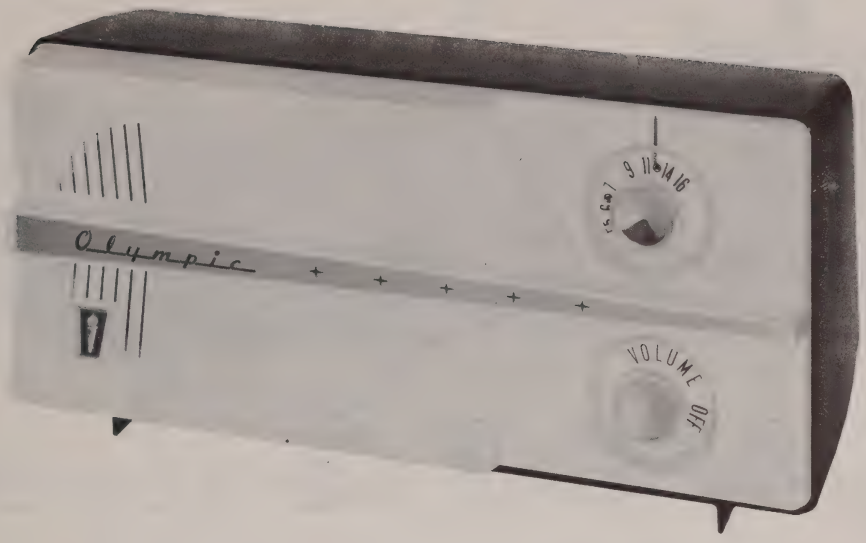
NORELCO MODEL L1X75T/64R

PHOTOFACT® Folder

OLYMPIC
MODEL 557

OLYMPIC
MODEL 557



OLYMPIC
MODEL 557

TRADE NAME	Olympic Model 557
MANUFACTURER	Olympic, A Div. of the Siegler Corp., 34-01 38th Ave., Long Island City 1, N. Y.
TYPE SET	AC - DC Operated 5 Tube AM Receiver
POWER SUPPLY	110 - 120 Volts AC-DC
TUNING RANGE—BROADCAST	540 — 1650KC RATING 26 Watts, .25 Amp. @117 Volts AC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools: A1, A2... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A3, A4... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to pin 1 (grid) of Converter. Low side to chassis.	455KC (400~ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2	Adjust for maximum output.
2.	"	1650KC	"	"	A3	"
3.	"	1500KC	"	"	A4	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Repeat Step 2.

SET 510 FOLDER 14

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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KG197

PARTS LIST AND DESCRIPTIONS

TUBES

• GENERAL ELECTRIC •			RAYTHEON • SYLVANIA •		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	12BA6	V4	Output	50C5
V2	Converter	12AU6	V5	Rectifier	35W4
V3	Det. -AVC-AF Amp.	12AV6			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	OLYMPIC PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	70	150	150-157A	PRS2230	BBRD8415	WD220	TDLD-10	TVA-2460	
B	30	150							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	.05 200V		P288N-05	DD-503	CUB2S5	4DP-3-503	GEM-415	2TM-S50
C3	50 N2200					*		10TCR-Q47
C4	220		DI-220*	DD-221	L10T22	CCD-221	B-322	10TS-T22
C5	.01 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10
C6	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C7	.05 400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S50
C8	.05 600V		P688N-05	DD-503	CUB6S5	6DP-3-503	GEM-615	6TM-S50

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	OLYMPIC PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	1meg	½	120-178	B-60-S	A47-1meg-Z	Q13-137	U53	Volume
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
C	Switch			Not Req.	SWE-12	76-1	US-26	Power Off-On

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R2	4700Ω	
R3	56Ω	
R4	2.2meg	

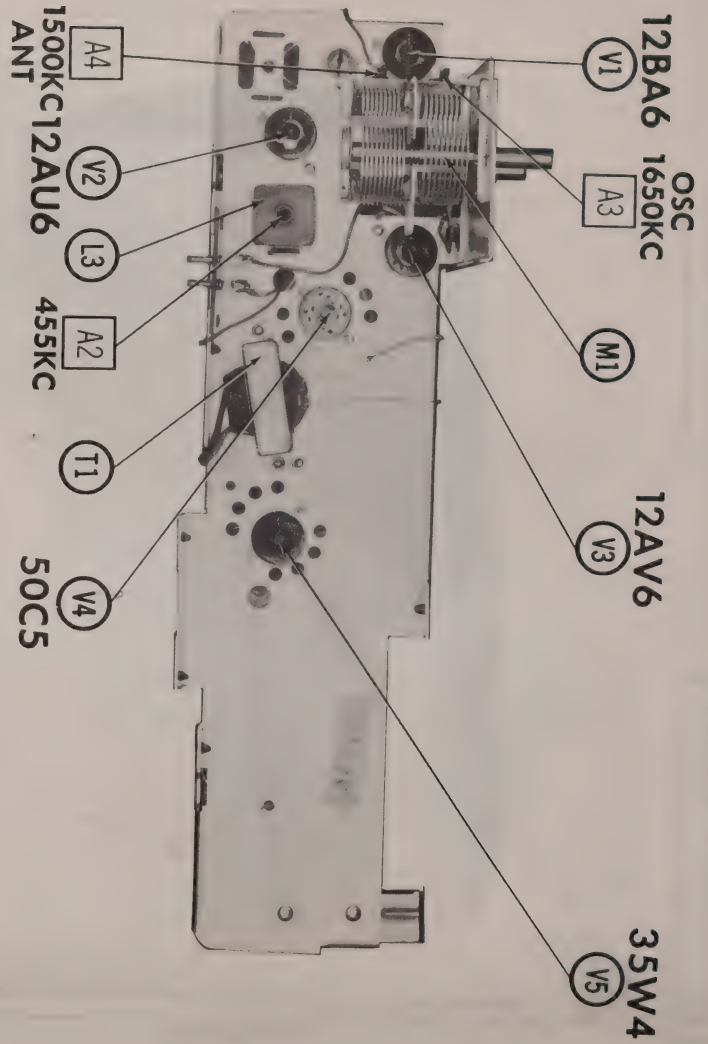
ITEM No.	RATING	REMARKS
R5	2.2meg	
R6	6.8meg	
R7	150Ω	

ITEM No.	RATING	REMARKS
R8	1500Ω 1W	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		OLYMPIC PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Loopstick	132-148A	BC-419			
L2	Osc. Coil	136-143B		67-OSC		
L3	IF Transformer	130-106		12-C12	RTC-8677	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	OLYMPIC PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	2500Ω	3-4Ω	138-150	A-3025	A-3332	24S53	S-12X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	OLYMPIC PART No.	QUAM PART No.	
SP1	4"	PM	3-4Ω	175-156	4A07	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	OLYMPIC PART No.	REPLACEMENT DATA	
K1	Audio Coupling	5000mmf, 250mmf, 250K, 470K	166-109	Aerovox Centralab Cornell-Dubilier Sprague	PA-112-2 PC-71 112TM2 T-4

MISCELLANEOUS

ITEM No.	PART NAME	OLYMPIC PART No.	NOTES
M1	Tuning Cap.	160-139	2 Gang (Ant. 30-420mmf, Osc. 18-162mmf)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

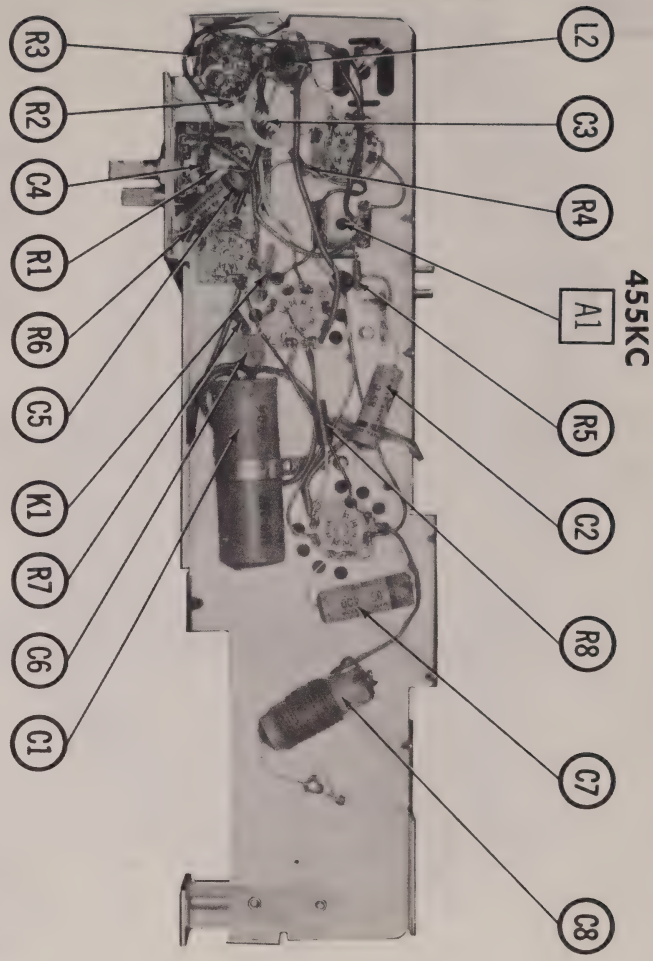
NAME	PART NO.	DESCRIPTION
Knob	220-212A	Tuning
Knob	220-211B	Volume
Cabinet	210-175F	Shell
Panel	205-159L	Front, White

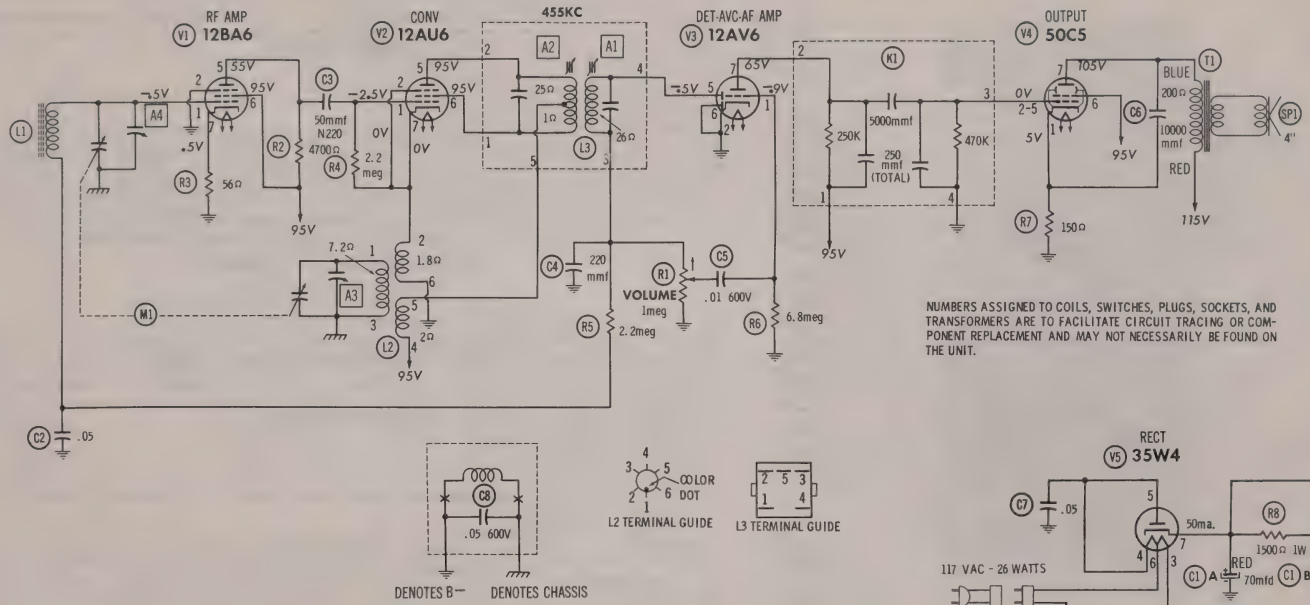
WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)

CHASSIS—BOTTOM VIEW





NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12BA6	3.2meg	0Ω	30Ω	15Ω	†6200Ω	†1500Ω	56Ω
V2	12AU6	2.2meg	0Ω	30Ω	45Ω	†1500Ω	†1500Ω	1.8Ω
V3	12AV6	6.8meg	0Ω	0Ω	15Ω	1meg	0Ω	†250K
V4	50C5	150Ω	470K	45Ω	100Ω	NC	†1500Ω	†200Ω
V5	35W4	TP	TP	100Ω	145Ω	145Ω	140Ω	¶

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
† MEASURED FROM PIN 7 OF V5.
NC NO CONNECTION
TP TIE POINT

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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OLYMPIC MODEL 557

PHOTOFACT® Folder with CIRCUITRACE®

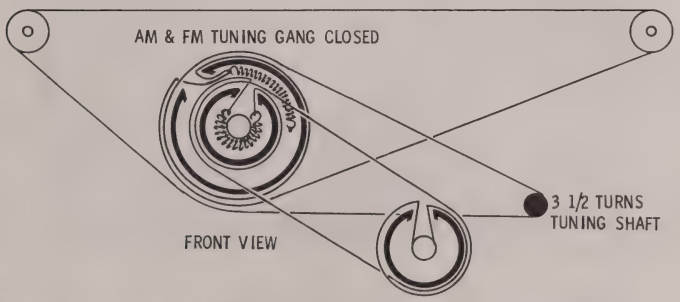
PHILCO MODEL RT-300

PHILCO MODEL RT-300

PHILCO MODEL RT-300

TRADE NAME	Philco Model RT-300		
MANUFACTURER	Philco Corp., Tioga & C Streets, Philadelphia, Pa.		
TYPE SET	AC Operated 7 tube FM-AM Tuner		
POWER SUPPLY	105 - 120 Volts AC, 60 Cycles	RATING	34 Watts, .34 Amp. @117 Volts AC
TUNING RANGE—BROADCAST	540 — 1620KC	FREQ. MOD.	88 — 108MC

DIAL CORD STRINGING



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KL083

SET 510 FOLDER 15

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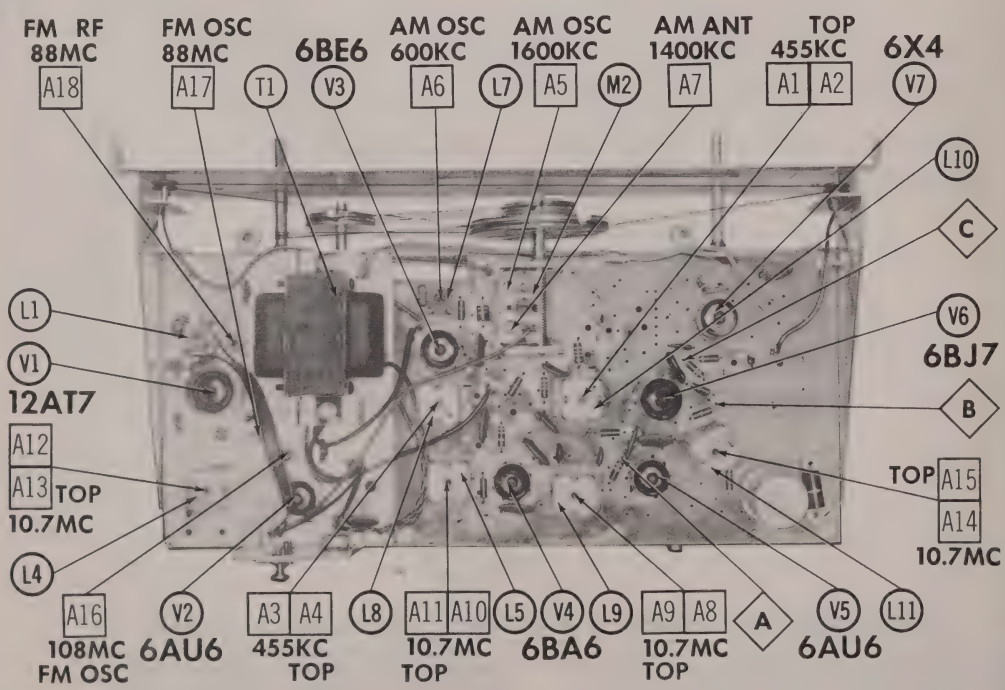
PRINTED BOARD

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



CHASSIS TOP VIEW — ALIGNMENT, INDUCTOR, TUBE & MISC. IDENT.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.
Use only enough generator output to provide a usable indication.
Suggested Alignment Tools: A1, A2, A3, A4....GENERAL CEMENT #5097, 8727
WALSCO #2515
A5, A7, A16.....GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520
A6, A8 thru A15, A17, A18....GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545

AM ALIGNMENT— SELECTOR IN AM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru .05mfd to pin 7 (grid) of AM Converter. Low side to chassis.	455KC (400∿ Mod.)	(AM) Tuning gang fully open.	AC probe across audio output jack.	A1, A2, A3, A4	Adjust for maximum deflection.
2.	Loop	1600KC	1600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.	"	600KC	600KC	"	A6	"
4.	"	1400KC	1400KC Signal.	"	A7	Adjust for maximum output. Repeat Steps 2, 3 and 4.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM—SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
5.	High side to pin 8 (cathode) of FM RF Amp. Low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference.	DC probe to point (A). Common to chassis.	A8, A9, A10, A11 A12, A13	Adjust for maximum deflection.
6.	"	"	"	DC probe thru 1meg to point (B). Common to chassis.	A14	"
7.	"	"	"	DC probe to point (C). Common to chassis.	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE—SELECTOR IN FM POSITION

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
5.	High side to pin 8 (cathode) of FM RF Amp. Low side to chassis.	10.7MC (450KC Swp)	(FM) Point of non-interference.	Vert. amp. to point (A). Low side to chassis.	A8, A9, A10, A11, A12, A13	Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown.
6.	"	"	"	Vert. amp. thru 27K to point (B). Low side to chassis.	A14	"
7.	"	"	"	Vert. amp. to point (C). Low side to chassis.	A15	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A14 for maximum amplitude and straightness of cross-over lines.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
8.	Across FM antenna terminals with 150Ω in high side.	108MC (Unmod.)	(FM) 108MC	DC probe to point (A). Common to chassis.	A16	Adjust for maximum deflection.
9.	"	88MC	88MC	"	A17, A18	"

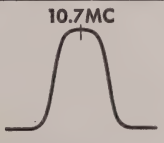


FIG. 1

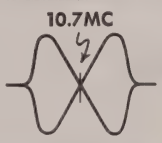
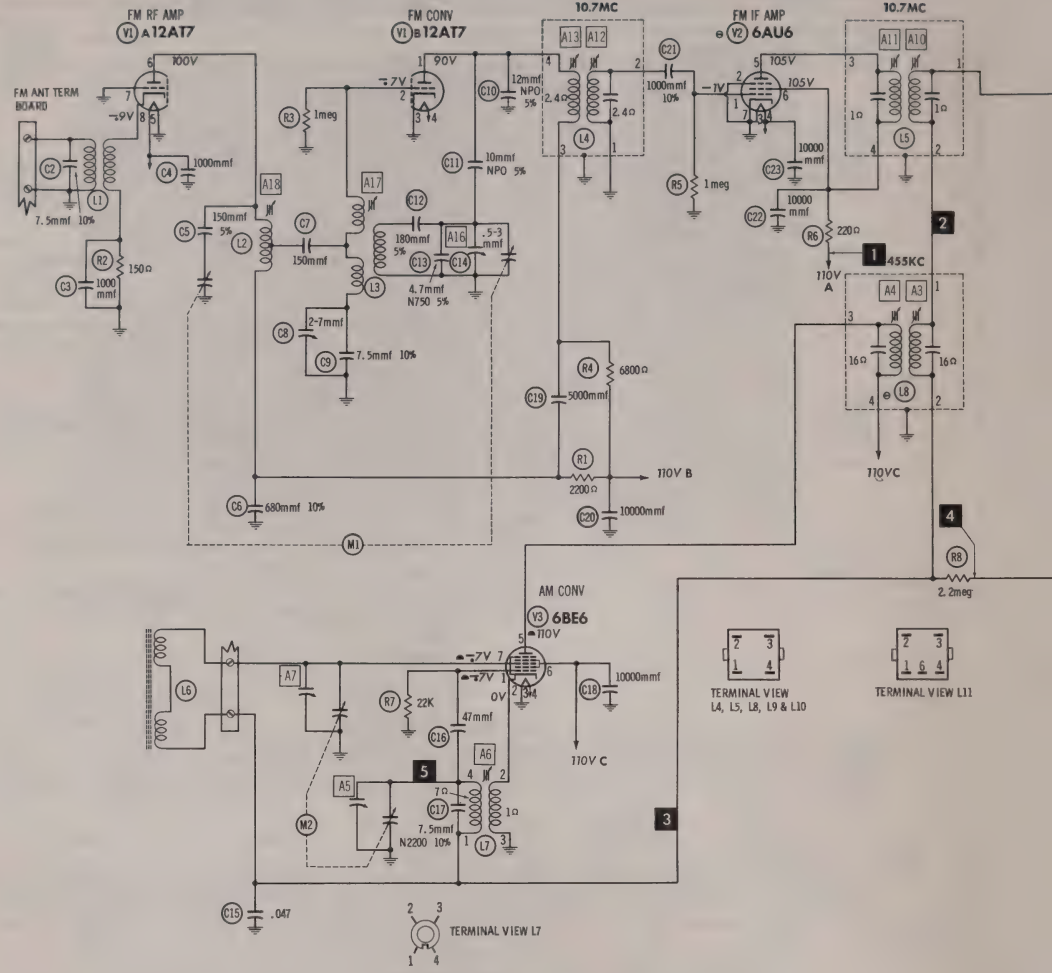


FIG. 2



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AT7	†8000Ω	1meg	0Ω	.1Ω	.1Ω	†3400Ω	0Ω	150Ω	0Ω
V2	6AU6	1meg	0Ω	0Ω	.1Ω	†1400Ω	†1400Ω	0Ω		
V3	6BE6	22K	1Ω	0Ω	.1Ω	▲†1200Ω	▲†1200Ω	2.6meg		
V4	6BA6	2.6meg	0Ω	.1Ω	0Ω	†1400Ω	†1400Ω	68Ω		
V5	6AU6	100K	0Ω	.1Ω	0Ω	†16K	†16K	0Ω		
V6	6BJ7	44K	22K	0Ω	0Ω	.1Ω	520K	0Ω	22K	0Ω
V7	6X4	190Ω	NC	.1Ω	0Ω	NC	190Ω	¶		

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
▬ MEASURED IN "AM" POSITION.
† MEASURED FROM PIN 7 OF V7.

NC NO CONNECTION

A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE

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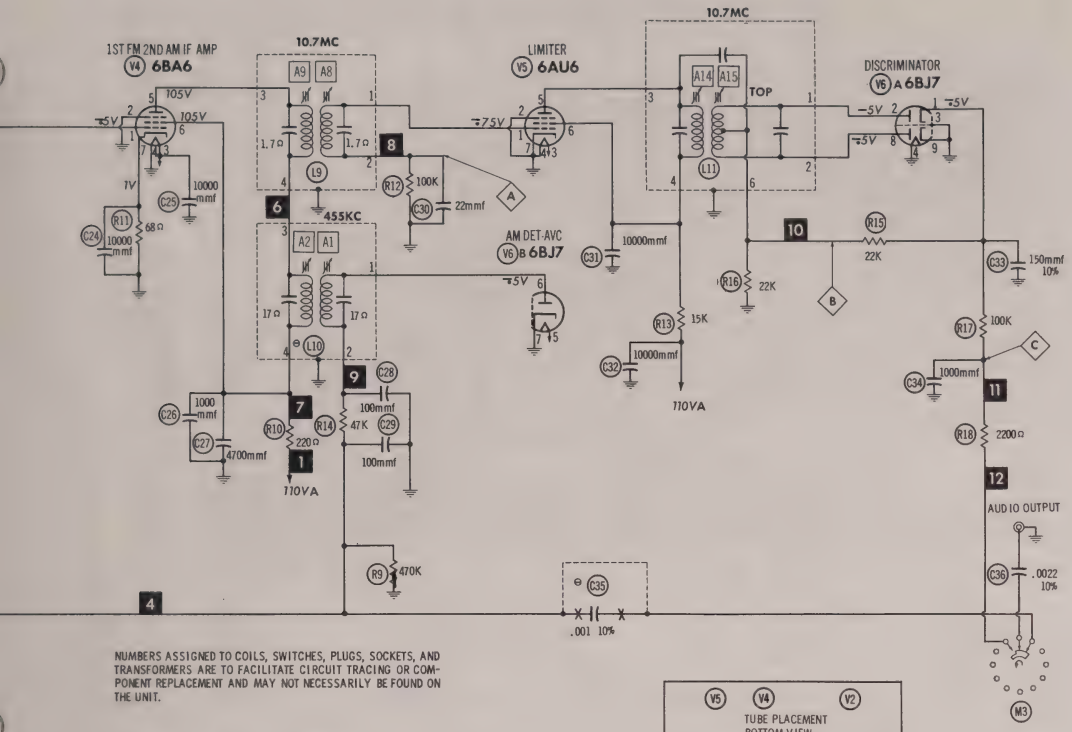


NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

Θ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. No signal applied for voltage measurements.

PHILCO MODEL RT-300

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (GENERAL ELECTRIC / RAYTHEON / SYLVANIA)
V1	FM RF Amp. -FM Conv.	12AT7
V2	FM IF Amplifier	6AU6 (6BA6) *
V3	AM Converter	6BE6
V4	2nd FM-1st AM IF Amp.	6BA6
V5	FM Limiter	6AU6
V6	Discriminator-AM Det. -AVC	6BJ7
V7	Rectifier	6X4

* Alternate

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	50	150	30-2585-12	PWH2-19-05	XB0181 ‡	PWP214.4		PCL-2442	
B	▲80	150							

‡ Use printed circuit adaptors #55277 & 55278.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	7.5 10%	#30-1257-16			C10V8C			
C3	1000		SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10
C4	1000		SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10
C5	150 5%		1469-00015	TCZ-150	22R5T15	CM-19B-151J	MCE236	MS-315
C6	680 10%		1469-00068		5R5T68	CM-19B-681K	MCJ249	MS-368
C7	150		1468-00015	TCZ-150	22R5T15	CM-19B-151M	MC236	1FM-315
C8	2-7	#31-6520-15		829-7				
C9	7.5 10%	#30-1257-16			C10V8C			
C10	12 NPO 5%		NPO-SI 12	TCZ-12	C10Q12C	CCTO-120	CNO-412	10TCC-Q12
C11	10 NPO 5%		NPO-SI 10	TCZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C12	180 5%		1469-00018	TCZ-180	22R5T18	CM-19B-181J	CNO-318	MS-318
C13	4.7 N750 5%		N750-SI 5.0	TCN-5	C10V5C	CCTN-050	CN7-547	10TCU-V50
C14	.5-3			829-3		CV-1	CT565	
C15	.047 200V		P2151N-047	DD-503	BC2S47J	4DP-3-473	ACE6147	2SE-S47
C16	47		SI 47	TCZ-47	L10Q47	CCD-471	GP447	
C17	7.5 N2200 10%	#30-1224-83						
C18	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C20	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	1000 10%			DD-102	5R5D1	CCD-102	GP210	10TS-D10
C22	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C24	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C25	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C26	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C27	4700		BPD-0047	DD-472	BYA10D47M	CCD-472	B-247	5HK-D47
C28	100		BPD-0001	DD-101	L10T1	CCD-101	GP310	10TS-T10
C29	100		BPD-0001	DD-101	L10T1	CCD-101	GP310	10TS-T10
C30	22		DI-22	DD-220	L10Q22	CCD-220	GP422	10TS-Q22
C31	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C32	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C33	150 10%		1469-00015	TCZ-150	22R5T15	CM-19B-151K	MCE236	MS-315
C34	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C35	.001 400V 10%	Note 1	V84C6D1-10%		PM6D1	6DP-1-102	GEM-1621	6TM-D10
C36	.0022 400V 10%		V84C4D22-10%		PM6D22	6DP-1-222	GP222	6TM-D22
C37	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C38A	4000		BPD-2X004	DD-402	BYA10D4	4DP-3-402	B-240	5HK-2XD40
B	4000			DD-402	BYA10D4	4DP-3-402	B-240	

‡ Philco Part Number

Note 1. Not used in some versions.

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS
R1	2200Ω	
R2	150Ω	
R3	1meg	
R4	6800Ω	
R5	1meg	
R6	220Ω	
R7	22K	

ITEM No.	RATING	REMARKS
R8	2.2meg	
R9	470K	
R10	220Ω	
R11	68Ω	
R12	100K	
R13	15K	
R14	47K	

ITEM No.	RATING	REMARKS
R15	22K	
R16	22K	
R17	100K	
R18	2200Ω	
R19	1200Ω 2W	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA PHILCO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	NOTES
L1	FM Ant. Trans.	32-4718-2				
L2	FM RF Coil	32-4717-3				
L3	FM Osc. Coil	32-4716-1				
L4	1st FM IF Trans.	32-4715-1	FM-254	1463	RTC-8599	
L5	2nd FM IF Trans.	32-4712-1		1463-PC	RTC-9046	
L6	Loopstick	32-4692-10	BC-419	705-A		
L7	AM Osc. Coil	32-4693-10				
L8	1st AM IF Trans.	32-4583-14 *	BC-356	13-PC1	RTC-8641	
L9	3rd FM IF Trans.	32-4712-2		1463-PC	RTC-9046	
L10	2nd AM IF Trans.	32-4583-15 *	BC-357	13-PC2	RTC-8642	
L11	Discriminator	32-4714-3		1464-PC	RTC-9050	

* Alternate Part #32-4584-17.

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA PHILCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V@ .34A	300VCT @ .040A	6.3V@ 2.7A	32-8912-1					

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M1	Tuning Cap.	31-2789-3	FM, 2 Gang
M2	Tuning Cap.	31-2783-18	AM, 2 Gang
M3	Switch	42-2058-6	Function Selector (Rotary Wafer Type)
	Printed Board	54-5474-2	

CABINETS & CABINET PARTS

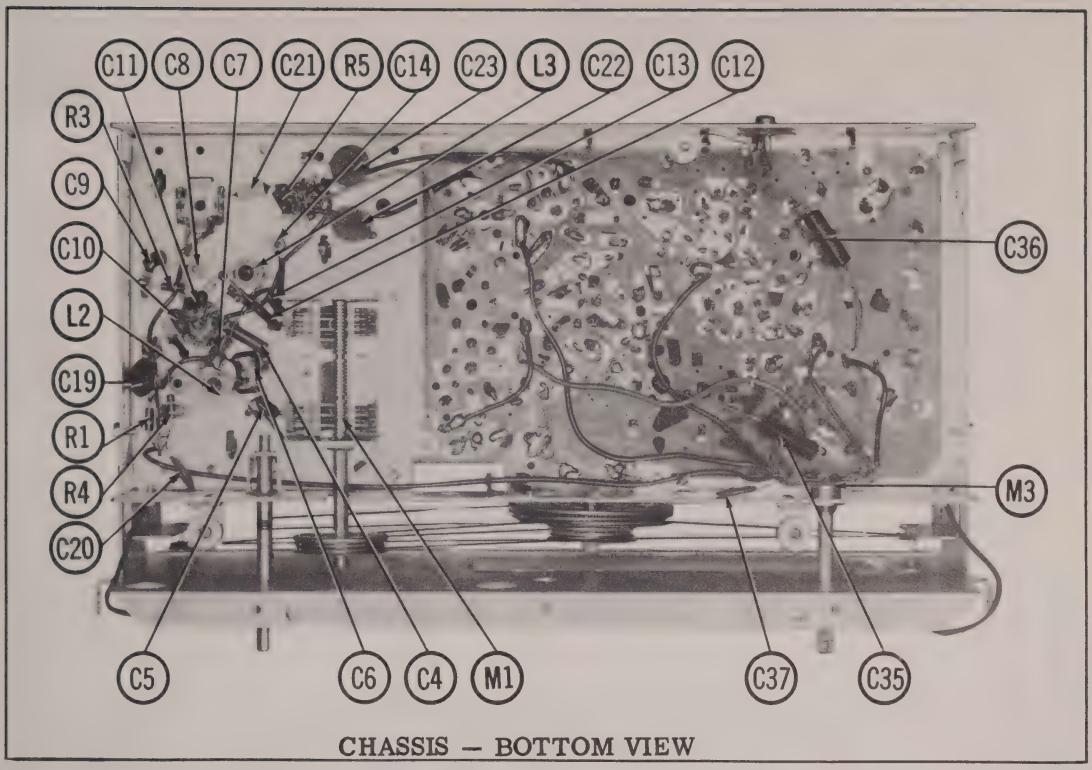
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Pointer	28-9739-11	Dial (Two Used)
Knob	28-11588-1	Tuning
Knob	28-11588-4	Function

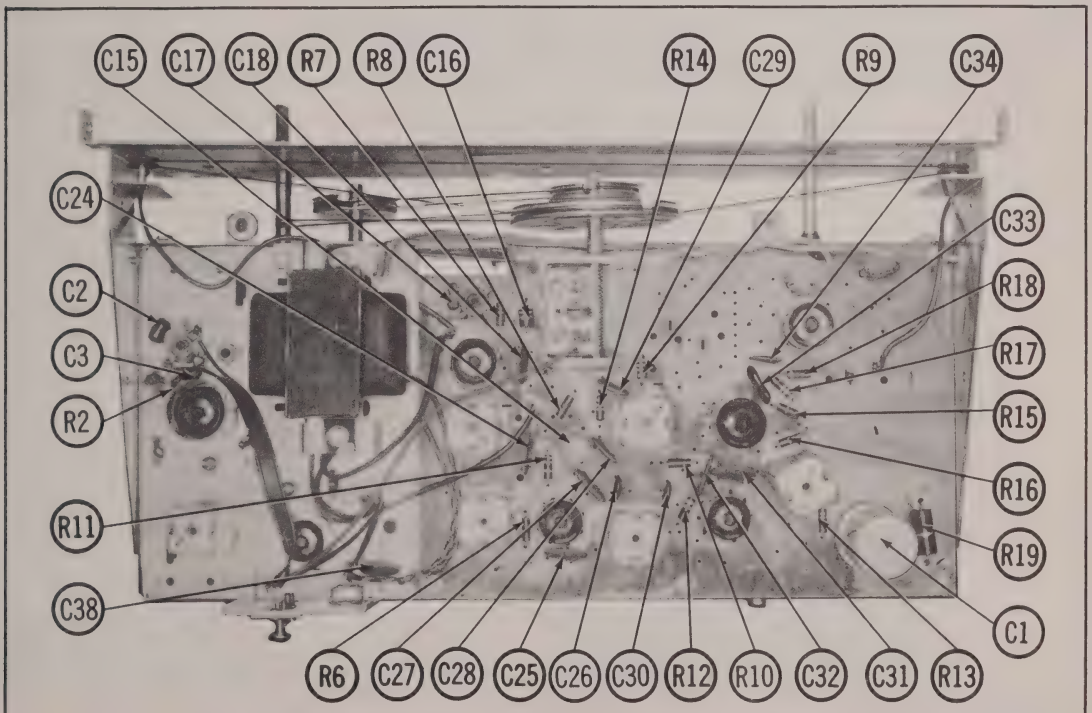
WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)



CHASSIS – BOTTOM VIEW

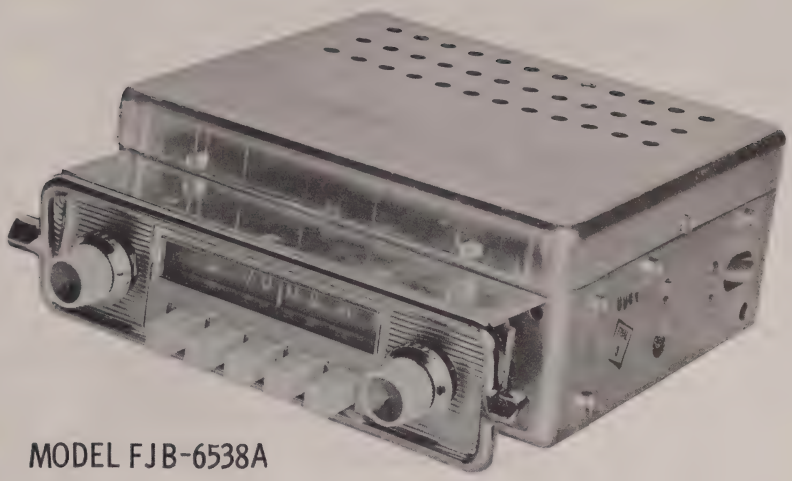


CHASSIS TOP VIEW – CAPACITOR & RESISTOR IDENT.

PHOTOFACT® Folder

RIVERSIDE MODELS FJB-6537A, FJB-6538A

RIVERSIDE MODELS
FJB-6537A, FJB-6538A



MODEL FJB-6538A

RIVERSIDE MODELS
FJB-6537A, FJB-6538A

TRADE NAME	Riverside Models FJB-6537A (Manual), FJB-6538A (Pushbutton) For 1958-1959 Volkswagen
SUPPLIER	Montgomery Ward & Co., 619 Chicago Ave., Chicago 7, Illinois
TYPE SET	Battery Operated 6 Tube Custom Built Automobile AM Receiver
POWER SUPPLY	6 Volt Storage Battery RATING 5.7 Amp. @6.3 Volts DC
TUNING RANGE—BROADCAST	538 — 1610KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:
A1 thru A4....GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A5, A6, A7...GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	265KC (400∿ Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	Thru dummy (Fig. 1) to antenna receptacle.)	1610KC	"	"	A5, A6, A7	"
3.	With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.					

PUSHBUTTON ADJUSTMENT

1. Pull pushbutton out.
2. Tune manually to desired station.
3. Press pushbutton in firmly.
4. Repeat for remaining pushbuttons.

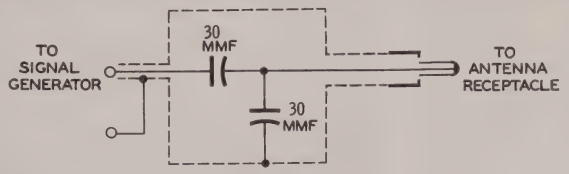


FIG. 1

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KL247

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

SET 510 FOLDER 16

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	6BA6	V4	Det.-AVC-AF Amp.	6AV6
V2	Converter	6BE6	V5	Output	6AQ5A
V3	IF Amplifier	6BA6	V6	Rectifier	6X4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA RIVERSIDE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	▲20	350	20-86S	AFH3-107		FP329.5		TVL-3635	
B	■20	350							
C	20	25							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2		#28-800L						
C3	40 NPO		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C4	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C5A								
B	40	#28-4046						
C								
C6	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C7	8.5	(5) †	DI-8.2	DD-080	C10V82C		GP580	10TCC-V82
C8	100 N750		N750-DI 100	DTZ-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C9	5000		BPD-005	DD-502	BYA10D5	CCD-502	GP250	5HK-D50
C10	.005 600V	Note 1	P688N-005	D6-502	CUB6D5	6DP-1-502	GEM-625	6TM-D50
C11	.47 100V		P288N-47		CUB2P47	1DP-4-474	GEM-2047	2TM-P47
C12	.04 1000V		P1088N-04	DF-403		16DP-5-403	GEM-1014	
C13	.47 100V		VHC36		CUB2P47	1DP-4-474	GEM-2047	2TM-P47
C14	3000	(10000) †	DI-3000	DD-302	BYA10D3	CCD-302	GP230	5GA-D30
C15	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

Note 1. Not used in some versions.
† Alternate Value.
# Riverside Part Number.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA RIVERSIDE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	2meg	½	80A1190	F1-67	RTV-696C		■ UE4100-S	Tone
B	500K 100K Tap			R2-45				Volume
C	Bushing			AK-26	XB-2			Power Off-On
D	Switch			KR-4	Not Req.			

■"STA-LOC" equivalent: FE26L, RU55T15, OS1687, IS2125, US41.

RESISTORS (IRC or EQUIVALENT)

All wattages 1/2 watt, or less, unless otherwise listed.

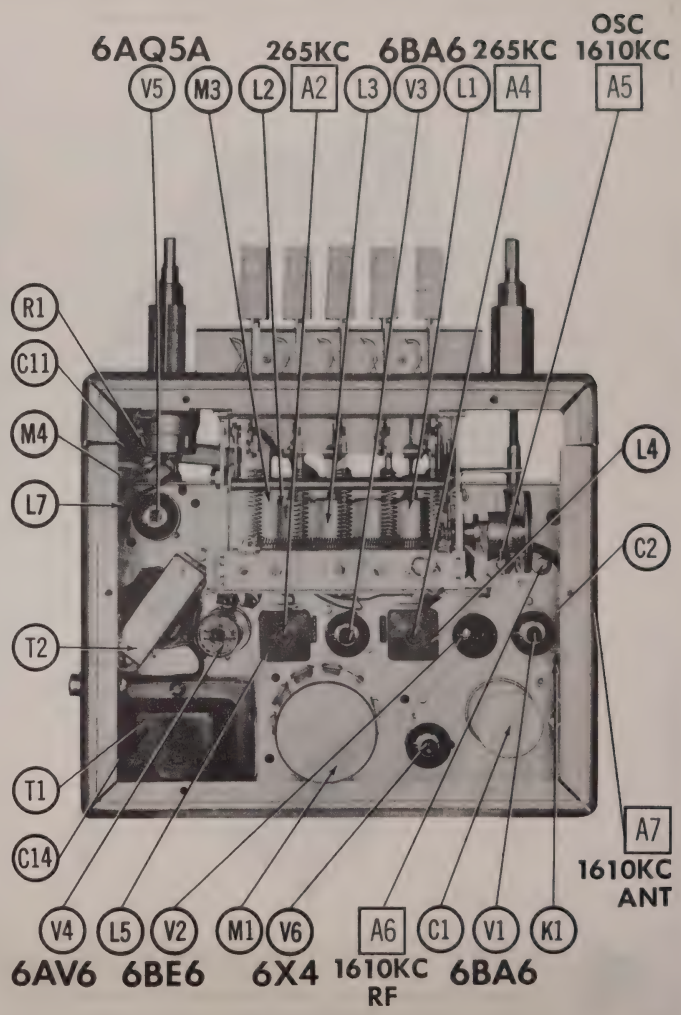
ITEM No.	RATING	REMARKS
R2	470K	
R3	68Ω	(330Ω) *
R4	150K	
R5	47K	
R6	6800Ω 2W	

ITEM No.	RATING	REMARKS
R7	1500Ω	(820Ω) *
R8	1.2meg	(2.2meg) *
R9	100K	
R10	4.7meg	Note 1
R11	270Ω 1W	

ITEM No.	RATING	REMARKS
R12	2200Ω 2W	
R13	68Ω	
R14	68Ω	
R15	47K	

* Alternate Value.
Note 1. Not used in some versions.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	RIVERSIDE PART No.	REPLACEMENT DATA	
K1 K2	Antenna Filter Audio Coup. Net	100mmf, 1.2meg 220mmf, 250mmf, 5000mmf, 5000mmf, 470K, 470K, 6.8meg	89-4204 89-151	Sprague Aerovox Centralab Cornell-Dubilier Mallory Sprauge	PRC-9 PA-113-2 PC-151 116-TM2 MS-107 DT-2

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		RIVERSIDE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Ant. Coil	①				
L2	RF Coil	①				
L3	Osc. Coil	①				
L4	Input IF Trans.	14-265	BC-350	12-H1	RTC-8638	
L5	Output IF Trans.	14-265	BC-351	12-H2	RTC-8639	
L6	Fil. Choke	14-205				18uh
L7	"A" Lead Hash Choke	14-205				18uh

① Part of Tuner Assembly M3.

TRANSFORMER (VIBRATOR)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	RIVERSIDE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	6VCT@ 3.1A	420VCT @ .040A		76A1204-6					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	RIVERSIDE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	5800Ω	3-4Ω	75A1203	A-2930	A-3877	24S51	S-3X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	RIVERSIDE PART No.	QUAM PART No.	
SP1	5"	PM	3-4Ω	73-272	5A15	

VIBRATOR

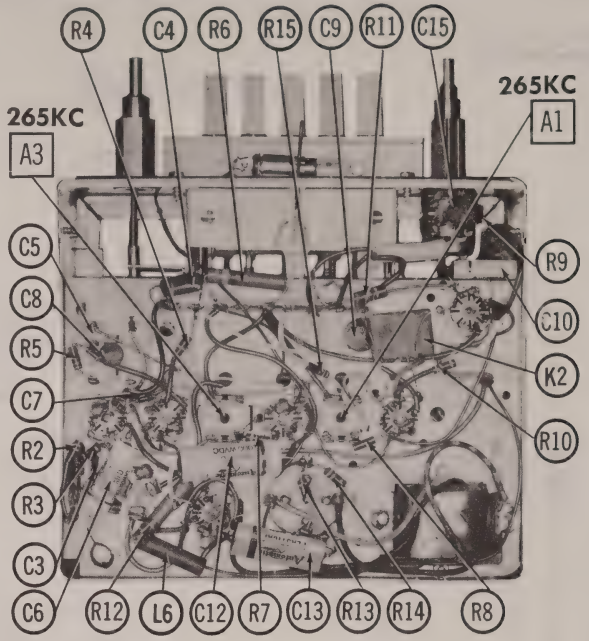
ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				RIVERSIDE PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M1	Interrupter	6V	115∿	113-83	5715	1501	5715	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			RIVERSIDE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M2	SFE	14A * 32V			307014	155014	SFE 14	HD1

* Some versions may use 7½ Amp. in this application (Part #108-100).

CHASSIS—BOTTOM VIEW



MISCELLANEOUS

ITEM No.	PART NAME	RIVERSIDE PART No.	NOTES
M3	Tuner	78B1191 or 78A1205	Pushbutton Manual
M4	Spark Plate		

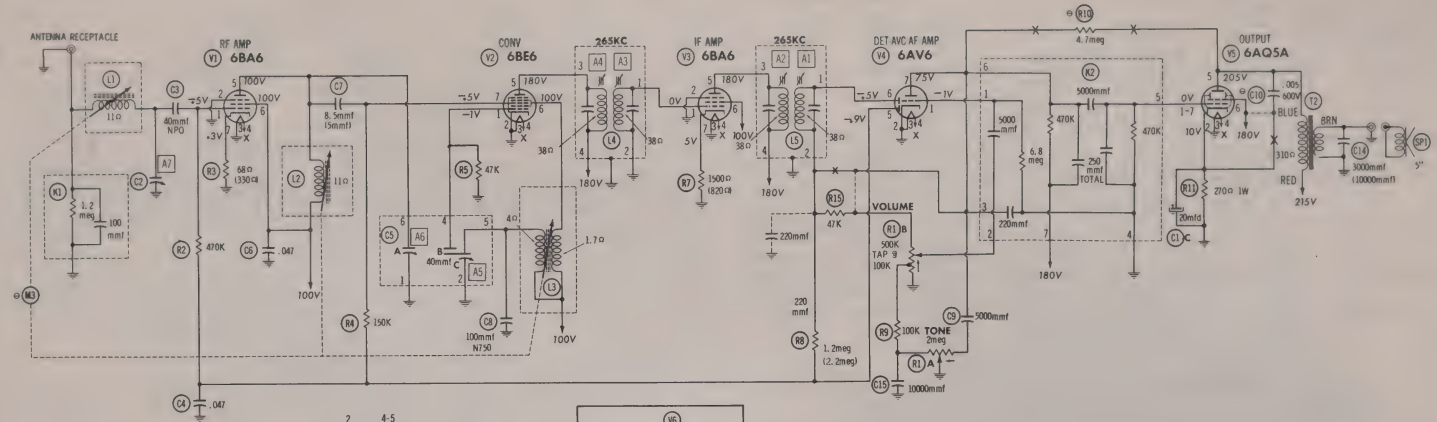
CABINETS & CABINET PARTS

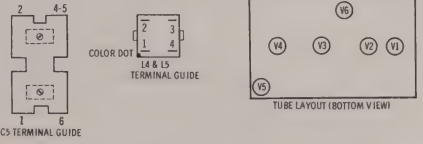
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

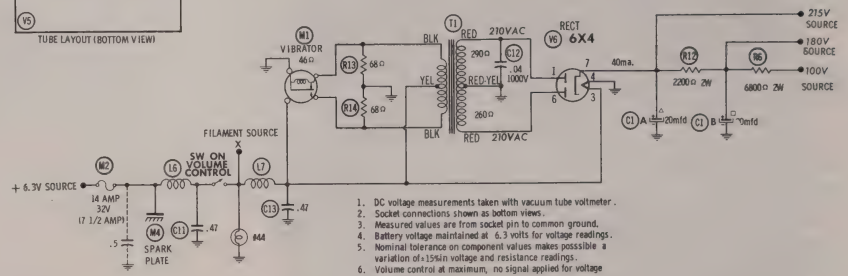
NAME	PART NO.	DESCRIPTION
Dial Scale	39D1194	
Knob	47B319-2W	Tuning, Volume
Knob	47B393	Tone
Knob	47B393-1	Dummy

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8661







RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	6BA6	2.7meg	0Ω	0Ω	.1Ω	↑9000Ω	↑9000Ω	68Ω
V2	6BE6	47K	0Ω	0Ω	.1Ω	↑2200Ω	↑9000Ω	2.2meg
V3	6BA6	38Ω	0Ω	0Ω	.1Ω	↑2200Ω	↑9000Ω	1500Ω
V4	6AV6	6.8meg	0Ω	0Ω	.1Ω	2meg	520K	↑470K
V5	6AQ5A	470K	270Ω	0Ω	.1Ω	↑310Ω	↑220Ω	NC
V6	6X4	290Ω	TP	.1Ω	0Ω	TP	260Ω	¶

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
↑ MEASURED FROM PIN 7 OF V6.
NC NO CONNECTION
TP TIE POINT

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Battery voltage maintained at 6.3 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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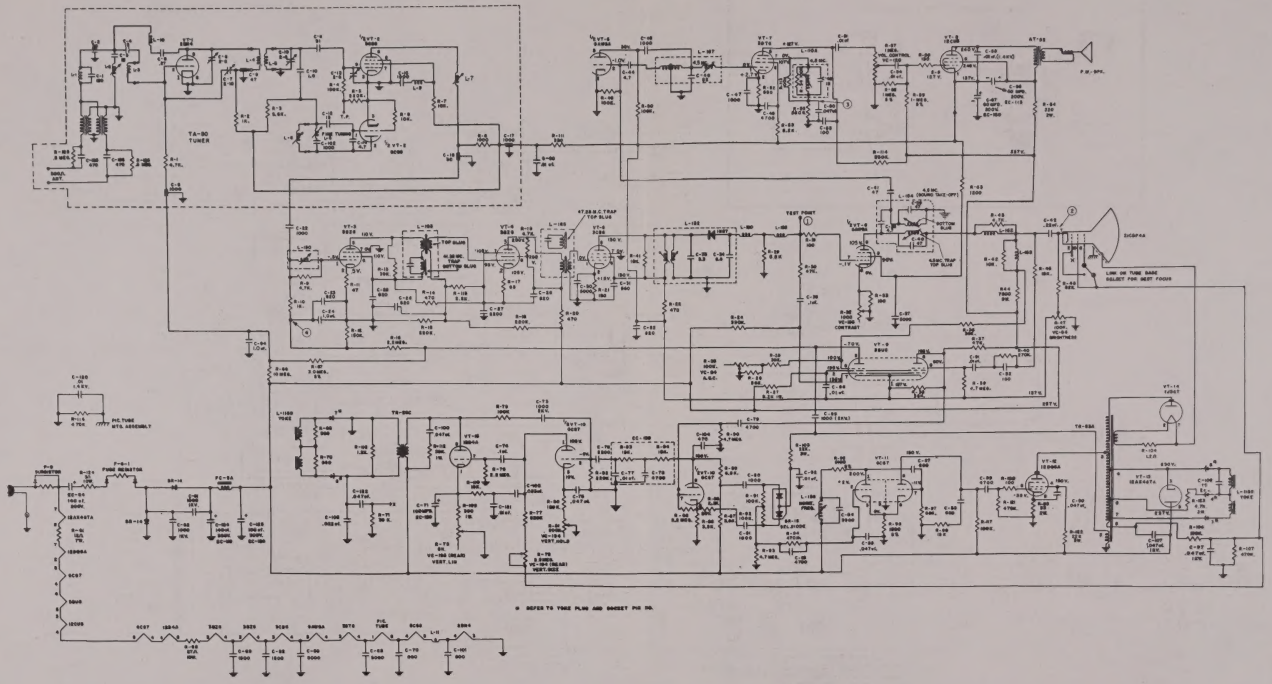
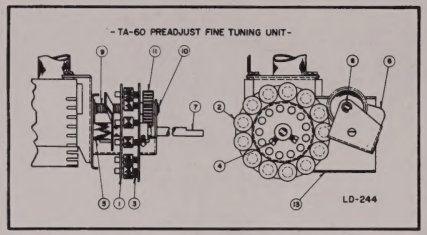
RIVERSIDE MODELS
FJB-6537A, FJB-6538A



TRUETONE MODEL 2DC1928

Schematic Diagram Courtesy of Western Auto Supply Co.



TRUETONE MODEL 2DC3140

Schematic Diagram Courtesy of Western Auto Supply Co.

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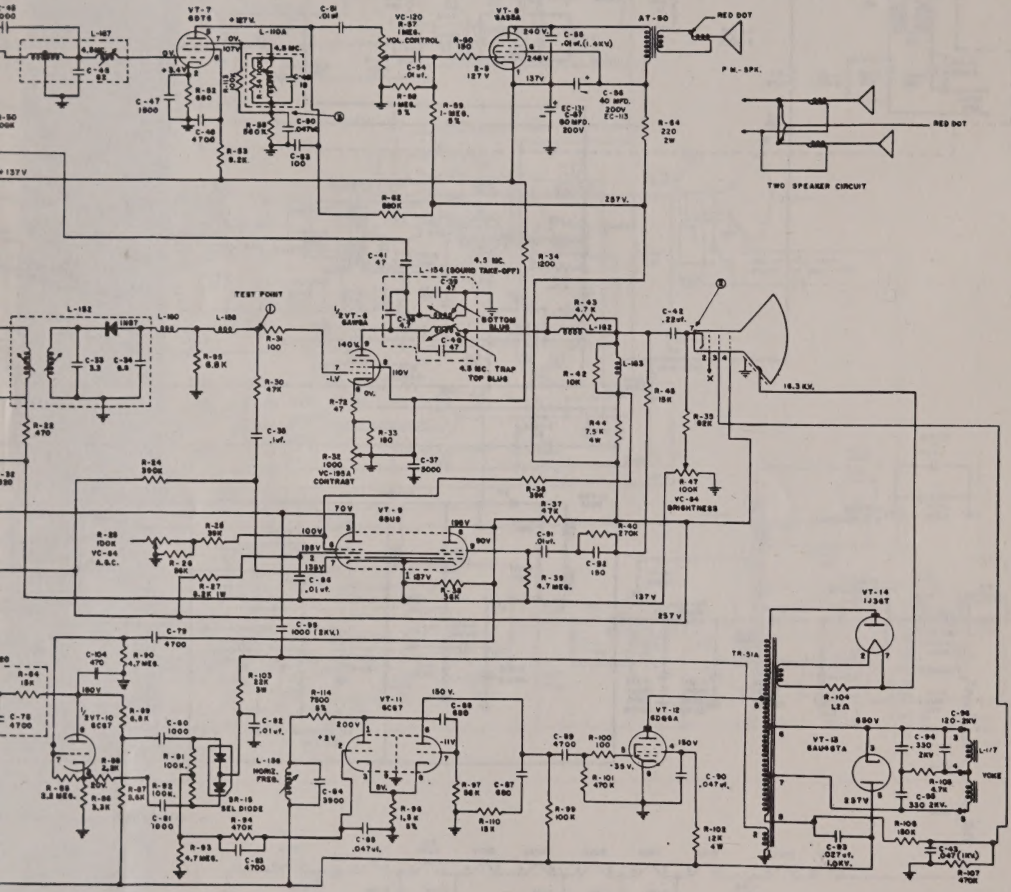

Schematic Diagram Courtesy of Western Auto Supply Co.